TECHNOLOGY IN EVERYDAY LIFE:
AN EXPLORATION OF GENDER AND AGE IN INTERNET USE

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Abstract

This study combines perspectives from domestication theory, feminist technology studies and sociological research on ageing in order to understand older people's internet use. The suggested approach enables us to examine the complexity of social inequalities in domestication processes. Firstly, I argue that domestication theory benefits from the integration of gender-technology relations, a perspective developed from within feminist technology studies. This allows a better understanding of different dimensions of gender (structure, symbolism, identity) as well as mutual shaping processes between gender and technology. Secondly, this analysis of gender-technology relations can also be utilised to enhance our understanding of age-technology relations. Gender and age are examined in relation to (i) different phases of domestication, (ii) the use of the internet for different activities and (iii) forms of social connectedness in everyday life. The research draws upon 33 semi-structured interviews with women and men between the ages of 55 and 80 about their internet and web 2.0 use experiences. My study demonstrates the diversity of intersections between age, gender and technology within older women's and men's internet use experiences, and highlights the significance of traditional age-gender-technology relations (which marginalise older women) for internet use. Furthermore, it identifies specific mechanisms found within domestication processes which serve to maintain these traditional relations. This thesis proposes a research perspective for studying age-gender-technology relations, and examines mutual shaping processes in the domestication of the internet.

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Preface

This research project started with my interest in internet, and specifically web 2.0, use. Previously, I had researched the use of mobile phones in families from a domestication perspective for my Master's dissertation at the University of Vienna. I wanted to continue studying technology from a sociological perspective, and researching older people's use of the internet allowed me to analyse the use of another technology in everyday life.

My motivations for doing a Ph.D. were that I wanted to research something interesting, to learn how to write better, and to learn to speak and write better in English. Now I also often dream in English. My grandfather says that this is proof of having adopted a foreign language. And the answer to my grandmother's frequent question is still – no, I haven't forgotten how to speak German. I am thankful to my Director of Studies for teaching me how to write more effectively and to Teesside University's English language tutors for teaching me to edit my texts.

When I started this research project, I expected it to be a study within the domestication perspective rather than a suggestion for combining domestication theory with other approaches. Feminist theory and sociological analyses of gender were an area in which what I had studied previously, initially did not fit well with what I was doing here. This was possibly related to the fact that the department at which I had previously studied (one of two Sociology departments at the University of Vienna) was associated with the school of Humanities. It emphasised and passed on to its students (who had to learn both quantitative and qualitative methods) a strong belief in qualitative methodologies as being more suitable for our epistemological interests in sociology. I decided to study in this department because of my interest in language, qualitative research methods, and social theory, and possibly also my lack of interest in mathematics. I think that the existence of these two institutes probably also led to a particular analysis of gender at this department. Gender as structure was less important for our research interests compared to the approaches I learned in Teesside.

The sociology department at which I studied for my previous degrees also advocated specific methods because of its focus on qualitative methodologies. Narrative interviews, in which the interviewer almost did not utter another word after the initial question, were considered to be a sign of particularly good data quality. Therefore, it took me many months of redrafted questionnaires to get myself to

prompt interviewees in the semi-structured interviews in this study. In the beginning, writing possible prompts in addition to the questions into the interview guidelines, felt for me like ruining my efforts to achieve good quality in the data collection from the start. And it took a while until I could see the benefits of these prompts, they helped in getting interviewees to talk about specific aspects of domestication processes they would not otherwise share.

One of the surprising experiences in moving from one country to another was the difference in terms of sociology. I had initially expected sociology to be something that would make moving here easier for me, since that is what I had been doing in Vienna, and what I would continue to do here. However, theoretically and methodologically, many things that were core parts of sociology in Vienna, here were hardly known to exist. Particular developments, such as system theory or objective hermeneutics, both very central at the department at which I used to study, are not core parts of sociology in the UK.

Another key area of learning through this project, where I think I now have a different perspective which does not only refer to my own experiences, but is more sociologically grounded, is web 2.0. Partly, my interest in this research project had to do with my own enjoyment of web 2.0 and leisure-time use of it. Through this study, I think I am more aware of the diversity of experiences, as well as more able to critically examine my own experiences with different technologies.

The main challenge of the research process was finding a perspective that could grasp the diversity of technology experiences. This was often a struggle, and I think that this is because of the way in which gender, age and technology are intertwined with so many parts of our everyday lives, and our personal lives. A critical exploration of gender, age and technology is also a critical exploration of gender and age identity as they are interlinked with technology. I can feel how this preface slowly starts to fill with different concepts from the study here, so I guess it is time to begin with the first chapter.

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Chapter 1: Introduction

This thesis explores older people's internet use, and specifically the significance of gender and age for understanding internet use in everyday life. I combine domestication theory, feminist technology studies and research on ageing to suggest a research perspective which can analyse the **intersection of gender and age** in internet use. My approach proposes to study gender and age as effective in terms of structure, symbolism and identity (see Harding, 1986 for a discussion of these dimensions of gender[1]). Faulkner (2001) emphasised the importance of this threefold distinction developed in feminist science studies for the analysis of gender and technology. I argue that analogous to gender-technology relations, age-technology relations include mutual shaping processes on these different levels. Through an analysis of the experience of internet use among older women and men, I demonstrate that domestication processes, which integrate technology in the everyday life of its users, take place in **the context of traditional age-gender-technology relations**. Analysis of 32 interviews and a smaller subsample of 7 video recordings of older people between the ages of 55 and 80[2] using the internet, demonstrates how age-gender-technology relations allows us to comprehend the **diversity** of experiences of internet use. The analysis explores mechanisms which maintain traditional gender-technology relations in internet use within domestication processes. In contrast to existing research on age and technology use, I argue that domestication processes involve the social construction of age, which should be analysed in terms of age-technology relations in internet use. The persistence of traditional age-gender-technology relations, and the difficulties as well as potential opportunities to change them, are also discussed.

The study approaches gender and age in older people's internet use through the investigation of three different research questions.

[1] Harding (1986) defined gender structure as a gendered division of labour, the use of dualistic gender metaphors to describe dichotomies which tend not to be related to sex differences as gender symbolism, and the social construction of individual identity as male or female as gender identity. In terms of technology, the gendered division of labour, results for example in the use of different technologies by women and men. Gender symbolism in relation to technology refers to a general association between certain technologies and masculinity. Gender identity involves the integration of technology (e.g. I enjoy using this technology which is typical for men) in individuals' understandings of their own identity as men and women.

[2] See Appendix 1 for short profiles of research participants.

- In what ways is the internet domesticated by older users within everyday contexts and is this process of domesticating the internet gendered?
- To what extent is the use of the internet and web 2.0[3]gendered and what is the significance of age in use?
- Does internet use provide an opportunity for older people to experience different forms of social connectedness?

My study provides new data on older women's and men's internet use. It offers insights into general internet use, and also includes web 2.0 use experiences, which so far have not been analysed from a domestication perspective.

The processes of domestication are studied in order to explore how gender and age shape the acquisition of the technology, its integration into spatial and temporal routines, and its use for self-presentation (the four phases proposed by Silverstone *et al*., 1992). The use of the internet for different activities is analysed to further explore the significance of gender and age. This enables us to examine whether an analysis of gender and age also contributes to our understanding of internet use beyond their importance for domestication processes. The third research question above investigates gender and age in relation to connectedness, both connectedness with social networks through internet use, and as feelings of connectedness facilitated by internet use.

This chapter will introduce the conceptualisation of the internet as technology, and as an element of everyday life. It also discusses how the suggested research perspective combines different theoretical traditions to explore the complexity of older people's internet use, and to analyse **technology as a social process** (Green, 2001).

[3]Web 2.0 is a term used to describe internet developments such as blogs and social networking sites (SNSs). Blogs allow internet users to publish content online and to comment on the content published by others. On SNSs, individuals create profiles which enable them to present themselves on personal pages, publish content, and communicate with others. See chapter 4 for a longer discussion of definitions of web 2.0.

1.1. Studying technology from a social science perspective

In modernity, technology, deriving from the Greek word *techne*, is defined as the manipulation of nature (Lee, 2009). Matter is seen as something inert, which can be manipulated to serve human ends. In everyday language, technology is often used to describe the product of the manipulation of nature. It refers to the material product, which exists after the manipulative process[4]. If technology is the material product of the manipulation of nature, a contrast emerges between the "social" as object of social scientific study (e.g. social relations), and the "material", which is technology. Accordingly, technology was often not a central element for sociological studies. The study of technology from a sociological perspective has increasingly contributed to questioning this separation between the social and the material. A new perspective on the social and the material developed through an analysis which has shown that we can only understand the meaning of the material, and for example understand the development of technology or the use of specific technologies, by looking at the way in which technologies are social, are products of social relations. Feminist research has contributed to developing this perspective. Discussing different definitions of technology, Kramarae (1988) argued that "[t]he least helpful are those which refer only to devices and machinery and to the techniques used to make things work. This is similar to the lopsided way of describing housework in terms of dust cloths and cleaning fluids without reference to the social systems which determine who it is who does the dusting and the cleaning" (Kramarae, 1988, p. 2 ff.) Technology, then, is not something that is separated from social relations, that stands outside society and has the potential to impact "from the outside" on social relations. Instead, it is only possible to explain technology by looking at the social relations of its development, production and use.

Feminist researchers (Henwood, 1993; Faulkner, 2001) have highlighted how the definition of what is technological in everyday language is associated with masculinity in multiple ways. The very definition of what counts as technology is shaped by women's oppression, the exclusion of their knowledge from the definitions of technology, and the linking of masculinity and technology to the disadvantage of women. The social relations between women and men are relevant for which technologies are developed, who gets access to them and how they are used. At the same time, the meaning and use of technology impacts on gendered

[4]This varies in different languages. In German, for example, *Technik* has the dual meaning of technology and technique, describing the product as well as the process (Olsen *et al*., 1999).

social relations. The intertwining of technology and gender has been described as a process of mutual shaping (Wajcman, 2004). To understand how this process of mutual shaping takes place, it is necessary to analyse how individuals experience the use of specific technologies (Wyatt, 2008). I argue that we have to analyse not only gender-technology relations, but equally age-technology relations for understanding experiences of internet use.

1.2. The social shaping and the domestication of technology

The social shaping of technology has changed from a less well-represented idea in 1980s social science to almost orthodoxy in the 1990s (MacKenzie and Wajcman, 1999). Technology is seen as socially shaped and technological determinism is widely rejected (Cockburn, 1992). The social shaping of technology emphasises "the importance of human choices and action in technological change" (Lievrouw, 2006, p. 248). An important influence on this perspective were studies from the sociology of scientific knowledge, analysing the way in which science itself, and the discovery of scientific facts, are socially shaped. There are several different research strands within the social shaping of technology: the exploration of the social construction of technology (analysing the role of designers, developers and user groups); the study of large technical systems; social informatics; and actor network theory (Lievrouw, 2006).

The domestication of technology is a more specific approach to media technologies that developed out of the tradition of cultural studies. It criticised diffusion theory, which saw technology adoption as a rational process, and also took issue with the cultural studies focus on the texts of media (Berker, 2006). In the 1980s, the creation, invention and distribution of technology were the focus of much media and technology research (Silverstone, 2006). By contrast, domestication theory looked at the different ways in which technology was "tamed" by its users once it was brought into households. Through the concept of the moral economy[5] of the household (Silverstone *et al*., 1992), information and communication technologies (ICTs)[6] in the home were conceptualised as links between the public and the private

[5] The concept of the moral economy is used to describe the integration and redefinition of ICTs in accordance with the "values and interests" of a household (Silverstone *et al.,* 1992, p.16).

[6] This study analyses the use of the internet, with a particular focus on web 2.0. It conceptualises the internet as an example of technology, more specifically ICT used in everyday life. The use of web 2.0

(e.g. transporting media content into homes). Households and individuals are viewed as having different resources at their disposal to demonstrate their integrity and autonomy through the ways in which they domesticate technologies. Thus, the domestication of technology is an element of the process in which households and individuals produce, maintain and assure themselves and others of their positioning in society. According to Silverstone *et al*., domestication processes include various elements, such as the appropriation, the objectification, the incorporation and the conversion of a technology.

Domestication theory focuses on the user as active, and through its emphasis on the meaning which technology acquires, is able to conceptualise the shaping of technology by users. Part of the process of giving a technology a certain meaning is, for example, the way in which households create different rules and routines for the use of specific technologies. Yet, users do not constantly invent completely new ways of using technology, or redefine technology radically every time they use it. Bakardjieva (2005) described gradual changes in the use of technology for specific purposes. She utilised language as a metaphor to describe how user agency can be conceptualised in relation to everyday technology like computers and the internet. Like languages, technological systems change gradually through changes in use genres. Users find different ways for dealing with problems in typical situations, which can then change the meaning of technologies through the change of the use genres.

While many studies of the social shaping of technology follow the "biography of a technology" from concept, to design, to use, studies of the domestication process concentrate on the user as a consumer of ICTs. In relation to the internet, much research has concentrated on the transformation of consumers into producers, or prosumers in the case of web 2.0. Following Lie and Sorensen (1996) the consumer should always be seen as also producing ICTs. Consumers are defining technology, and this can also lead to the user redefining her or his own practices and routines (Lie and Sorensen, 1996). Contacting family members they have never met on a genealogy website, is an example of how some older people are changing their habits of doing genealogy. Through the communication aspect of the internet, it is

is always simultaneously internet use. The internet can be accessed from various devices (e.g. mobile phone, tablet PC). However, participants in this sample tended to access it mainly through desktop PCs and laptops.

possible for them to not only find information about their relatives, but to get in contact with them.

1.3. Information and communication technology in everyday life

The increasing use of computers and development of the internet over the last 20 years has resulted in the internet becoming a technology that is used daily by many people worldwide. It is a resource for information and for many people also a tool for work as well as part of their leisure practices and communication with others. Use is now so widespread that the internet can be seen as a kind of infrastructure. The exclusion of different groups (e.g. poor people, women, older people and disabled people) has been discussed as a "digital divide".

The internet is often researched from the perspective of (new) media studies. This approach highlights the consumption of media content. Silverstone (2007) explored how media are used by people to make sense of their lives, utilising interpretations provided by media content. This contrasts with an analysis of the internet as a technology, in which the consumption of particular media content is taken into account but is not the main focus. Since domestication studies are positioned between (new) media studies and sociology, they also highlight the social construction of technology through practices of use. New media are constantly developing. Because of the pace of this development technological change is probably easier to perceive with new media than with other technologies. Livingstone and Lievrouw (2006) define new media as: "information and communication technologies and their associated social contexts, incorporating: – the artefacts or devices that extend or enable our abilities to communicate; – the communication activities or practices we engage in to develop and use these devices; and – the social arrangements or organizations that form around the devices and practices" (p. 23). In contrast to the new media perspective, I adopt a sociological perspective which combines feminist technology studies with domestication theory, in order to conceptualise mutual shaping processes between technology, gender and age. Gender and age can be studied as social inequalities, which are effective on several levels (Harding, 1986). This allows us to develop a more in-depth understanding of technology use, and to explore the diversity of technology use experiences.

This project analyses the experiences of older people with computers and the internet, experiences which are under-represented in studies of new media (most often based on research with people who are under 30), and research on the domestication of new technologies (most often focused on households with children who are younger than 18 years). Since the domestication of the internet concerns its integration into the context of everyday life, domestication processes vary and I argue that they are shaped by age and gender.

While technology is ubiquitous in many people's lives, ICTs are different from other technologies, in that they are technologies which can enable communication. Social relations are then part of their domestication, and the technological object itself can become important for supporting communication in a social relationship. In the context of older age, the internet is seen as a possible way to counter social isolation. Another aspect which is investigated in this project, is how far internet use is enriching older people's lives through the facilitation of forms of social connectedness.

With the development of web 2.0 (e.g. websites for photo sharing, blogging, social networking), uploading content, writing on a website, and communicating with others became easier for those who do not have the necessary knowledge to create a website themselves. In comparison to earlier internet technology, web 2.0 includes more possibilities for people to express themselves and to communicate with each other, whether visible or invisible to third parties. Much writing on web 2.0 originates from marketing and business studies perspectives, it is therefore necessary to also analyse the potential and limits of web 2.0 from a sociological perspective. Through an exploration of the experiences of the participants in this study, I present different examples of web 2.0 use in later life. This highlights that the use of the same web 2.0 application by several generations in a family can create a new situation in which older generations have more insight into the communication of younger family members with their peers. The analysis demonstrates the relevance of traditional age-gender-technology relations for older people's use of web 2.0.

1.4. The domestication of the internet

An analysis of the domestication processes, via which technology acquires different meanings, includes an examination of the interpretation of technology in everyday

life. This interpretation of the internet by its users can be successfully analysed through a qualitative approach, which can gain access to people's experiences and stories about technology use. Research participants can tell these stories via interviews and observation sessions, explaining the meanings that a technology has for them. Age-gender-technology relations form part of domestication processes. The internet can, for example, be:

- related to intimate aspects of personal life
- a disputed intrusion
- a facilitation of individual leisure
- a means to stay in contact with friends
- a source of frustration
- a means to keep in touch with family members
- a possible way of saving money
- a way to communicate in an impersonal way

Different from everyday understandings of technology in which we are used to view technology as material object and as distinct from social relations, this research perspective reveals a different picture of technology as social. While the domestication of the internet can take place within households with several members, it is also domesticated in single households, and across households. Domestication processes do not necessarily lead to the constant use of a technology; they also include resistance to technology and unsuccessful domestication processes can result in non-use (Silverstone, 2005; Lehtonen, 2003).

Domestication is also the process via which individuals reproduce uses of ICTs which are restricting them, and which might not be progressive (Silverstone, 2005). This also allows us to analyse the processes that shape the reproduction of gender and age in internet use, and to discuss:

- individual agency
- limits for individual agency, and
- conditions for changing traditional age-gender-technology relations

Thus, we can understand how technology is implicated in both social change and the reproduction of the status quo, an important contribution to the sociological examination of internet use. The aims of this project are to develop further what a mutual shaping of technology and gender means, to use people's experiences as a way to analyse this process, and also to take further the study of the domestication of the internet as an everyday technology, through the analysis of age-gender-technology relations in older women's and men's experiences.

1.5. Age and gender in domestication research on internet use

Studies that focus on older people's experiences in the domestication of the internet are very rare (Haddon and Silverstone, 1996; Buse, 2009a). In terms of domestication research, an analysis of age as social inequality (McMullin, 2004a) provides a new focus, since existing studies analyse the experiences of older people but do not explore, for example, age symbolism in technology use. Gender is researched more often. However, I argue that gender is not always taken into account in terms of structure, symbolism and identity. My study is based on an understanding of gender as process and as mutually shaping with technology. Analyses which approach gender only as gender identity tend to underestimate its significance in domestication processes. A study of gender and age can explore the intersection of both in internet use, rather than focusing only on gender-technology or age-technology relations. I will first discuss those studies which examine older people's computer and internet use, and then research on gender in domestication processes of the internet.

Haddon and Silverstone (1996) studied the use of computers and other ICTs among the young elderly (defined as 58–75 years old). They identified the use of the computer for different activities in older people's everyday lives, such as for correspondence, keeping records, or computer artwork. Haddon and Silverstone also identified a generational reticence to computer use among their sample, but argued that the experiences of retirement and ageing are highly diverse, which makes generalisations difficult. The authors suggested that older people are separate from mainstream society, but do not discuss this in terms of age as social inequality. They propose that older people's values were formed in another age and are therefore "out of touch" with current values. "There are, of course, common assumptions both that a sense of impending physical deterioration and death on the

one hand, and an equally inevitable progressive marginalisation from the mainstream of society on the other, would provide a commonness of experience. But it would be wrong to read from such assumptions, even if they can be sustained, anything either definitive or consistent for the cohort as a whole" (p. 155). Haddon and Silverstone analyse age through an exploration of identity and the experiences of a particular cohort, but do not focus on the mutual shaping between age and technology. If, in contrast to their approach, age is conceptualised as a process, it is possible to analyse the significance of the social construction of ageing in internet use, as I demonstrate in this study.

Buse (2009a) provided an update of Haddon and Silverstone's work, with similarities in terms of the employed study design. Since Buse's study is very recent, it includes an analysis of internet use, rather than only computer use. For Buse, age shapes internet use in later life, but as with Haddon and Silverstone, she does not analyse age-technology relations or age as social inequality. The author proposes the concept of embodied technobiographies to grasp the differences between younger and older people's internet use. In this perspective, older people's previous experiences with technologies, and their use of particular technologies (e.g. radio) during the formative period of technology use earlier in their lives, make the use of the internet more difficult for them. Buse found that "the struggles in adopting these technologies experienced by many older people can be understood as a reflection of difficulties in applying embodied skills and knowledge acquired over a life-time to new technologies encountered later in life, and adapting to the changes in the physicality they require" (p. 247 f.). This analysis thus views the difficulties older people might have in using the internet as a result of their embodied experiences of earlier technology use.

Buse also highlighted examples of what I understand as the symbolic association between younger people and technology complicating older people's use of the internet, without however interpreting this as an example of the social construction of ageing in age-technology relations. "[W]hile many participants reached a level of embodied competency at which computing skills became automatic, they contrasted their experiences with those of "young people" who had grown up with computer technologies and for whom this embodied competency was seen as a generalized capacity" (p. 248). In Buse's analysis, older people will have difficulties in using the internet if they have not started to use computers early enough in their lives. Younger people are currently advantaged because they begin to use computers

without the burden of embodied practices that are associated with other technologies. Buse also discussed gender as shaping older people's internet use (e.g. gendered biographies and different experiences of computers in employment), but viewed older women's lesser skills in this area as being related to a generational habitus of the cohorts under study, without discussing gender-technology relations as shaping internet use more generally.

Both of these earlier studies of older people's internet use do not examine age as social inequality or theorise mutual-shaping processes of age and technology. In comparison to age, gender is more often researched from a domestication perspective. Hynes (2005) explored gender and age in the experiences of younger internet users. She conceptualised both as attributes of individuals rather than as processes, and found that they only have a combined effect. Bakardjieva (2005) argued that gender roles are re-negotiated through the development of new internet use genres. Lally (2002) found that gender is significant in the domestication of the internet, and mutually shaping with technology.

Hynes (2005) provided a rare analysis examining gender and age (although she focuses on younger people's experiences), also including other factors such as household composition as additional variables in her analysis of domestication processes. In terms of principle users and the use of the internet as a communication or information medium, she found that women and men did not split into two separate groups. While Hynes's research highlights the ways individuals position themselves in terms of gender, she includes gender and age only as attributes of participants in the analysis, rather than exploring them as processes which are shaped in technology use situations. Subsequently, she argued that "it is an oversimplification to testify that technologies are gendered and that they foster a homogenous affinity to the artefact" (p. 164). Some of Hynes's participants view the internet as a younger person's medium, but she did not analyse this in terms of symbolic associations between age and technology. Hynes argued that age or gender alone cannot explain internet use, and demands an approach which combines the effects of several social inequalities and other factors such as household composition. In terms of age-technology relations, Hynes's study also differs from mine in the sampling: her sample includes more parents of younger children, and owing to the younger age of her sample overall, only three of her interviewees (two men and one woman) would be included in my "younger older" group.

Other authors (Bakardjieva, 2005; Lally, 2002) discussed gender in depth but hardly mentioned ageing in their studies of the domestication of the internet. Bakardjieva found that traditional gender inequalities could not explain the internet use of all her participants, and that particular use genres developed in those households which did not follow traditional patterns. Bakardjieva argued that internet use led to the renegotiation of gender roles, as women became leading internet users in some households as part of their role as mothers. However, in only integrating the use of one particular technology, it could be argued that this change in the role of the mother does not impact much on gender or gender-technology relations in general. I argue in this study that despite the welcome opportunities such change creates, enabling some women to use the internet, the broad patterns of gender-technology relations are not questioned and sustainable change is not created (see the discussion of mechanisms which maintain traditional gender-technology relations in chapter 7). Bakardjieva did not analyse age-technology relations, and owing to their age, only five male participants from her study would be part of my sample.

Lally (2002) discussed gender more than age, demonstrating its importance for understanding internet use (e.g. highlighting how one woman used the computer less because of the demands of childcare). She identified gender and age as shaping the context of computer use, but tends to view age particularly as only part of the dynamics of relationships within the household, neglecting how the moral economy of the household is itself situated in a context which is shaped by gender and age. The emphasis on in-household relationship dynamics results in a lack of attention to gender and age as social inequalities that shape the moral economy of the household.

Two other studies (Habib and Cornford, 2002; Aune, 1996) focused on gender in computer and internet use, presenting on the surface contrasting evaluations. Habib and Cornford argued that gender did not shape the domestication processes of the computer in the families they studied. Similarly to Hynes (2005), they approached the analysis of gender in domestication processes by examining female and male attitudes towards computers, treating gender as an attribute of individuals. In this research perspective, the significance of gender is determined through the separation of women and men into different types of user groups. This cannot take the shaping of gender as process into account. I argue in my study that we have to analyse the mutual shaping of gender and technology on several levels (which is

not explicitly stated but is part of the approach of some domestication studies, see Bakardjieva, 2005; Lally, 2002; Aune, 1996), since we underestimate the importance of gender if we only look for traditionally male and female uses among women and men. As I discuss later on, such an analysis is made possible by conceptualising traditional gender-technology relations as context of technology use.

Habib and Cornford stated that “no simple general pattern linking gender and computer use” (p. 163) was visible in the experiences of their participants. They argued that their analysis followed the tradition of domestication research, since it aimed to explore the domestication of the computer as the result of the very specific personal way of life of the household. In their view, researchers should not aim to link the use of the computer in families to “some universal set of relations” (p.163) such as gender. The authors suggested that different aspects of the domestication processes they studied were gender-related, namely that gender was relevant when “linked with other concepts such as resources, identity and symbolism”. Interestingly, this study came to the conclusion that gender does not shape domestication processes, despite highlighting the relevance of gender in terms of resources (which could be substituted with structure), identity and symbolism, as has been argued by feminist technology studies (Faulkner, 2001). The combination of domestication theory with feminist technology studies can demonstrate how gender is effective on all these three levels.

Aune’s (1996) study of the domestication of the computer comes closest to my own approach of studying gender as process. She interviewed 39 participants of whom 9 were women, and identified different user types which were shaped by gender. Similarly to my approach, her analysis examined gender as shaping the context of technology use, and in terms of identity and symbolism. She found time-intensive use by men and the exclusion of women from a male culture of technology, something I also discuss as the experience of some participants. My study aims to analyse the intersection of gender and age in domestication processes in more detail (highlighting mechanisms which maintain gender-technology relations in internet use) and through the inclusion of more than one social inequality, combining gender and age. In comparison to existing studies which focus on the domestication of computers and the internet among older people, my research perspective allows me to analyse the social construction of age in internet use.

1.6. Studying age-gender-technology relations

Research on internet use, and particularly web 2.0 use, often originated from the disciplinary perspective of new media studies (e.g. Lueders, 2008; van Doorn, 2010). Studies in this tradition focus on the differentiation between web 2.0 and other media, or pay particular attention to media content, neglecting the quality and meaning of the internet as technology. In contrast to this, the analysis of the internet as an example of technology draws on research from the sociology of technology and feminist technology studies. Researching the internet as an ICT enables an exploration of the mutual shaping processes between technology and social inequalities, as proposed in this study. Media content is not neglected in this perspective, but it is less central. The focus of my study is on the integration of the internet as a technology into everyday life, in which media content is one element among others. Although domestication theory has its origins in media studies and research on TV audiences (Morley and Silverstone, 1990), since it reveals the processes through which the technology is integrated into households, it highlights the social shaping of technology. This makes it possible for me to adopt domestication theory in a research perspective which focuses on processes of social shaping of technology, such as gender-technology relations. It is the affinity of both domestication theory and feminist technology studies to the research tradition of the social shaping of technology, which makes them compatible. I argue that while the domestication perspective highlights the importance of the social construction of ICTs for understanding their use, and offers a theoretical framework for researching technology use and its embedding in everyday life, feminist technology studies contribute a more radical approach. This approach views gender and technology as mutually shaping (instead of only gender having an impact on the domestication of the technology), as well as closely theorising one aspect of the social shaping of technology, namely gender-technology relations (Wajcman, 2009).

In domestication studies, users are understood to be active, producing meanings through their consumption of ICTs. Through the use of a particular ICT, and for example the consumption of a particular website, users produce meaning in the sense that they say something about themselves. Thus, ICT use is linked to the social positioning of a household or an individual (Silverstone *et al*., 1992). An aspect of ICT use is that it enables individuals and households to reproduce their own positioning, for example in terms of gender. While domestication theory emphasises the active role of users in the adoption of ICTs, taking research in media studies on active audiences further, feminist technology studies have a

twofold interest in the reproduction of gender through technology use: this approach aims not only to better understand the intertwining of gender and technology, but also argues that there is a need to analyse the potential for changing traditional gender-technology relations. In my study, the suggested combination of the domestication paradigm and feminist technology research results in a perspective which focuses on mutual shaping processes between social inequalities and technology. This means that feminist technology studies can be utilised to analyse the (re)production of, and challenges to, traditional gender-technology relations in the domestication perspective. Simultaneously, the claim that users actively domesticate technology in everyday life can be further explored in terms of the potential and difficulties of changing traditional gender-technology relations.

A traditional domestication approach would aim to determine whether gender or age impact on domestication processes. These studies tend to understand gender and age as identity, and as such their implication in technology use seems relatively unproblematic. As Silverstone *et al.* (1992) argue, domestication processes which involve, for example, gender, contribute to the reproduction of the positioning of an individual or a household in society. Both individuals and households assure themselves and others of their positioning through their use of ICTs. In contrast to this, feminist technology studies view gender identity as only one aspect of gender-technology relations, which also comprise gender symbolism and gender structure (Harding, 1986; Faulkner, 2001). This research tradition allows us to understand the implication of technology in the continuance of gender inequality. I argue that current domestication research would benefit from an understanding of gender as more than gender identity – as social inequality – an understanding which can be achieved through a combined perspective with feminist technology studies. This also links domestication research and the analysis of everyday life to broader sociological theory.

While domestication theory is very important for establishing that the integration of technology into everyday life is simultaneously and necessarily an integration into a moral economy, a feminist technology studies approach highlights how the moral economy of a household is (1) itself shaped by social inequalities such as gender and age, and (2) part of an environment which is equally shaped by them, which impacts on the possibilities for change. Additionally, feminist technology studies allow us to explain aspects of the persistence of gender-technology relations through the analysis of their mutual shaping character, and the implication of technology in, for example, gender identity.

Furthermore, this understanding of gender as social inequality enables us to theorise technology as a social process (Green, 2001) suggesting that technology is mutually shaping with social inequalities on several levels (see Faulkner, 2001 for gender-technology relations). I argue that an analysis of older people's internet use should theorise the social construction of age in technology use in a way analogous to gender-technology relations. Thus, gender and age can be studied as intersecting in older people's technology use, on the three levels of structure, symbolism and identity (Harding, 1986; Winker and Degele, 2011). These intersections should be analysed as processes of mutual shaping (Walby, 2012) between social inequalities and technology. Individuals and households also have agency in this perspective in terms of their adoption of the internet. But this agency is limited compared to the original proposition of domestication research, since domestication processes take place in the context of traditional age-gender-technology relations.

Building upon the tradition of domestication theory, I argue that individuals actively domesticate technology. I also demonstrate that the traditional approach which views technology as domesticated according to the positioning of an individual and a household, only describes one aspect of age-gender-technology relations, namely identity. In terms of identity, different individuals have more and fewer possibilities to question traditional age-gender-technology relations. However, age-gender-technology relations also include structural and symbolic dimensions (see Harding, 1986 for gender as operating on the level of identity, symbolism and structure), which are equally part of domestication processes. Feminist technology studies are particularly useful here because they offer an alternative to conceptualising gender as a static attribute of individuals. The analysis of gender and technology as mutually shaping, and the conceptualisation of both as processes (Berg, 1994), provides an alternative to the understanding of gender in existing domestication research. The advantage of this perspective lies both in its ability to better formulate mutual shaping processes between technology and social inequalities, and in its delivering an analysis of the significance of social inequalities for understanding technology.

Another advantage of this research perspective lies in its ability to go beyond determining whether women and men or older people and younger people use the internet differently. Instead, gender, age and technology are conceptualised as mutually shaping processes. It is therefore possible to explain not only typical experiences, such as women's difficulties or men's ease of using the internet, but

also atypical experiences, such as women who use the internet more than their partners, or men who do not enjoy using the internet. Equally, older people's difficulties and competences can be examined as situated in the context of traditional age-gender-technology relations.

For some research participants, internet use is a means to challenge aspects of the social construction of ageing with direct implications for their own age identity. The intersection of gender and age inequality in technology use means that there are a variety of ways in which gender, age and internet use can be intertwined. Some older people can find their own experiences within traditional age-gender-technology relations, others find that these do not reflect aspects of their own experiences. Some women particularly enjoy internet use because of its potential to question aspects of the social construction of age identity. Among participants who do not enjoy computer use, men downplay gender-technology relations, while women identify examples for associations between masculinity and technology. Men who have been using computers for many years and enjoy this activity struggle with their identification as older and the implied loss of competence. Older women who have less experience in computer use emphasise their lack of competence through reference to them being women and older. These different examples, which will be further discussed in the presentation of the research findings (particularly in chapter 7), demonstrate the importance of studying the diversity of outcomes of intersections of gender and age in internet use.

1.7. The structure of the thesis

This chapter introduced key themes such as technology and ICT use in everyday life, as well as the theoretical perspective suggested for analysing older people's internet use in this study. Following the discussion of the methodological perspective and the design of the study in chapter 2, I first examine research on age and technology use (chapter 3) and then studies on gender and technology (chapter 4), arguing that older people's internet use should be studied through an analysis of age-gender-technology relations in domestication processes. The next three chapters present the analysis of my data. I demonstrate how gender and age shape the different phases of **domestication processes** as well as the **use** of the internet for different activities in everyday life. Furthermore, I discuss internet use in terms of different forms of **social connectedness**, again showing how intersections of gender and age create opportunities for different forms of connectedness. Following

this, internet use experiences are analysed to highlight the diverse outcomes in older women's and men's technology use. Chapter 8 summarises the findings and discusses their implications for future research.

Chapter 2: Methodology

I have argued that domestication theory should integrate aspects of feminist technology studies and apply the understanding of gender-technology relations developed in this tradition to age-technology relations. The aims of this study are the investigation of the significance of age and gender in domestication processes (Silverstone *et al*., 1992) and in the use of the internet for different activities, as well as in relation to forms of social connectedness in older people's internet use. This chapter discusses first, **methodological aspects**, and second, the **design of the study**, including its limitations.

2.1. Studying internet use in everyday life

In this study the internet is explored in terms of its use in older people's everyday lives rather than through the analysis of its invention and technical development, a perspective that was more dominant in earlier studies of technology (Bijker and Pinch, 1987). Early research studied the internet as a separate "space", and virtual reality, as opposed to material reality, as a different type of culture (Hine, 2000). Turkle (1995) argued that internet use allowed individuals more choice, for example in terms of flexible gender identities. More recent research has argued that online selves cannot be conceptualised as disconnected from offline selves and that such an approach fails to grasp the interconnectedness of both (Baym, 2009; Robinson, 2007). A focus upon domestication research, which emphasises the importance of studying the context of everyday life for understanding ICT use, provides an opportunity to study both together, as two interlinked aspects of the experience of internet use.

Research on internet use has often relied on quantitative surveys of cohorts of college students and undergraduates (e.g. Tufecki, 2008; Jones *et al*., 2008; Jackson *et al*., 2001). Consequently, these studies cannot grasp the integration and social construction of technology in everyday life. By contrast, and owing to its focus on the meanings of technology in an everyday context, domestication research usually operates within the qualitative research paradigm. Since technology is attributed different meanings by its users, a qualitative approach, which is able to grasp the social construction of technology in different situations through the analysis of the stories users tell about their technology use, can trace these

meanings better than a quantitative approach. Although selected domestication studies have also used quantitative data (e.g. Buse, 2009a), the focus lies on qualitative methods (Haddon, 2006).

In the following section I will discuss how the combination of theoretical approaches (domestication theory, feminist technology studies, sociological research on ageing) shaped the design of the present study.

2.2. Methods for analysing age and gender in domestication processes

2.2.1. Domestication research: technology as shaped in the context of use

Since the domestication of technology involves its integration into everyday life, the internet is socially shaped in the immediate context of use, such as the relationships of a particular household, including links between the private and the public. Silverstone *et al*. (1992) argued that the adoption of ICTs in households takes place within a moral economy, with ICTs acting as negotiated links to the outside world. ICTs are viewed as connecting households to the rest of society in the sense that, for example, television programmes literally bring information about the outside into the home and connect households to the outside and to other households. Silverstone *et al*. conceptualised ICTs as being integrated into the household's social relationships through domestication processes, and used according to different values and beliefs forming part of the identity of the household and its members, and as such also displayed to non-members.

Despite the capacity of ICTs to link the private and the public and to be part of diverse aspects of everyday life, it is necessary to delimit a "field" for an empirical study (Hine, 2009). In the tradition of domestication studies, I argue that households[7] and the experience of individuals within their homes are key for understanding the domestication processes of computers and the internet[8].

[7]In comparison to television, which was studied in nuclear families in early domestication research (Morley and Silverstone, 1990), the internet is more often used outside the home (e.g. in the context of employment). Additionally, older people's households differ from nuclear family households (e.g. comprising an older couple).

[8]It is important note how the internet through web 2.0 (but also e.g. through email) is both an information and communication medium. This adds another set of questions which are bound up with social relations, not only through the shaping of technology, but through its use in specific

Silverstone *et al*. (1992) differentiated several phases in the domestication process. These are:

- appropriation (ownership, acquiring a technology)
- objectification (display, e.g. related to the importance that is attributed to the technology)
- incorporation (inclusion into routines in the household)
- conversion (linking technology use back to the public realm, self-presentation of individuals and households)

These different phases can overlap and take place simultaneously. Early domestication studies employed a broad variety of qualitative data-gathering methods (Silverstone *et al*. 1991), such as participant observation, diaries and interviews, while more recent studies have often relied on a smaller range of methods (e.g. Lally, 2002; Aune, 1996). However, most studies which analyse the domestication of the internet rely on interviews (e.g. Aune, 1996; Lally, 2002; Bakardjieva, 2005; Haddon and Silverstone, 1996; Hynes, 2005). Sometimes they are combined with "tours of the computer" (participant observation; Bakardjieva, 2005), in which research participants explain the data on their computer, or time use diaries, together with repeated interviews (Buse, 2009a), or photographs of the domestic space (Haddon and Silverstone, 1996).

2.2.2. Feminist technology studies: gender-technology relations in domestication processes

According to Ramazanoglu and Holland (2000), research projects which are based on feminist methodologies utilise a "normative framework in which some ideas, inequalities and modes of gendered social organization can be judged unjust, and some power relations and practices judged improper" (p. 140). The utilisation of a feminist methodology enables us to bring to domestication theory a critique of specific outcomes of domestication processes, which tend to exclude older people and women from use of computers and the internet. Therefore, opportunities for

social relationships for communication purposes, including feelings of social connectedness, which will be discussed in chapter 6.

change in terms of the significance of traditional age-gender-technology relations for computer and internet use are more central than in traditional domestication studies.

In contrast to the focus on ICTs in domestication studies, different phases of feminist technology studies have researched diverse technologies, developing a broader perspective on gender-technology relations and their complexity. Domestication studies tend to present gender as one possible element of domestication processes, whereas feminist technology studies view gender-technology relations as central for understanding both technology and technology use. For example, regarding the use of the computer in employment and home settings, feminist technology studies can draw on the analysis of gender-technology relations (e.g. the devaluing of women's skills, definitions of what counts as technology, see Henwood, 1993) in employment settings, comparing them to the use of technology in the home. Domestication processes linked to use of the computer in the home are also linked to its external use (e.g. in terms of the symbolism of computers or the experience of individuals in the home). As Wyatt (2008) argued, it is necessary to analyse diverse experiences with technology to unpack the mutual shaping processes of gender and technology. Feminist technology studies often use qualitative interviews (e.g. Kleif and Faulkner, 2003), sometimes combined with the analysis of artefacts (Cockburn and Omrod, 1993). Similarly, Henwood *et al*. (2001) show in their exploration of technobiographies how previous experiences with technologies can be used to explore gender-technology relations through autobiographical writing.

2.2.3. Ageing research: age and gender as intersecting in technology use

However, feminist technology studies tend not to analyse intersections of gender and age, and ageing has been researched less than gender in the domestication of the internet. Haddon (2006) suggested that an individual's past can influence his or her use of ICTs later on. However, despite one early study on older people's computer use (Haddon and Silverstone, 1996), the theorisation of age-technology relations appears to have been neglected, and the variety of older people's experiences with different technologies needs further research (Joyce and Malmo, 2006). Those studies which do analyse older people's computer use, tend to be based on surveys (e.g. Mollenkopf and Kaspar, 2005; Blank and Dutton, 2011) and most fail to take symbolic aspects of age-technology relations into account (although some studies have used qualitative interviews, e.g. Richardson *et al*.,

2005; Jaeger, 2005). It is necessary to study gender and age as intersecting (Krekula, 2007; Wilinska, 2010), conceptualising both as social inequalities. This allows us to go beyond analyses which focus on the link between technology and one social inequality, as well as to understand the diversity of outcomes of intersections. Loe (2010) analysed the use of technology by women in their nineties, combining in-depth interviews with participant observation, to examine their diverse experiences. Richardson *et al*.'s study of older people's computer use was based on a sample which included 55–65 and 66–88 year old participants. It combined observations and interviews in a computer learning centre with "male only" and "female only" focus groups to study gender differences in older people's perceptions of computer use. The preliminary analysis was then taken back to the interviewees for further comments.

2.2.4. Studying gender and age in older people's internet use

Owing to the quality of gender-technology and gender-age-technology relations, older people's experiences and their perspectives on the internet become the most central aspects of the analysis of domestication processes. The different meanings that are attributed to technology can be explored through semi-structured interviews, guiding research participants through aspects of the domestication process. In a sense, the interview itself is then also part of the domestication process, in which the interviewee presents herself or himself through a description of their technology use. Compared to interviews, video recordings are much less used in social research, although recordings of internet use sessions can provide interviewees with different prompts to talk about their use.

My study is based on the analysis of semi-structured interviews, which are complemented with a small subsample of video recordings. In the interviews, older women and men who live in the North East of the UK describe their experiences of using the internet. The semi-structured interview method enabled me to ask participants about different aspects of their experiences. This involved questions about their everyday life (e.g. whether they were retired, whether they lived alone); how they started to use computers; how the internet was integrated in their everyday life spatially and temporally, as well as in terms of relationships in the household; the variety in the participants' uses of the technology; their views on the internet; and particular experiences they had in relation to internet use.

My data focuses on the experiences of a group that has been largely neglected in previous domestication research (see Haddon and Silverstone, 1996; Buse, 2009a for exceptions), highlighting how age and gender intersect in different ways. Additionally, the data illuminates aspects of mutual shaping processes, demonstrating the particular mechanisms which serve to maintain traditional gender-technology relations. Via diverse stories about their internet use, interviewees describe their experiences, which are then analysed in terms of traditional-age-gender-technology relations. By also asking them about potential differences between women's and men's internet use, and those of older and younger people, the participants were encouraged to position themselves more explicitly.

2.3. Study design

The study included two phases, a pilot phase and a main research phase. In the pilot phase, the recruitment strategy and the interview guidelines (see appendix 3) were tested with 10 participants. The main research phase consisted of semi-structured interviews with older women and men about their computer and internet use. Of the total 33 interviews, 7also included a video-recorded session of computer and internet use session. The empirical material was analysed in different rounds of coding, using the qualitative data analysis software NVivo.[9]

2.3.1. Sampling strategy

The study is based on a theoretical sampling strategy, which contrasts with a representational (recreating the studied population through depiction of the proportionality of different variables) or an illustrative (without claims to represent a wider population, explorative) sample (Mason, 2002). This means that groups and categories which are particularly relevant for exploring the research questions (gender, age, experience of use) are selected to guide the sampling process.

[9] NVivo is a software to store and organise different types of data which is more adapted to the needs of qualitative research projects than MS Office, enabling content to be easily linked from different files. It includes opportunities to code material (facilitating the identification of specific codes across the data), to organise these codes in the form of trees, and to write up different aspects of the data in memos, which can also be linked to different data files.

Interviewees had to be 55 years old or over. Although chronological age is unlikely to have a direct impact on the use of ICTs, it can be assumed that being closer to retirement could have an impact on the likelihood of encountering the internet in an employment context (which could impact on e.g. the availability of resources for learning). Therefore, the sampling strategy aimed to include younger older (55–64) and older, older (65+) interviewees (see also Ling, 2008 for a similar sampling strategy in the study of ICT use).

Additionally, interviewees included women and men because their experiences are likely to be shaped differently by gender-technology relations. This allowed me to study gender in internet use through the experiences of those who are statistically more excluded (older women), and those who are statistically less likely to be excluded (older men), from internet use.

The sample needed to include individuals who differ in their familiarity with, and uses of, the internet. As Wyatt *et al*. (2002) have argued, technology use should not only be approached through an analysis of users, but the continuum of use and non-use. However, experience is difficult to define (e.g. in terms of time since the internet was first accessed, frequency of use, activities for which the internet is used, and web 2.0 use), since it is related to competence which is also intertwined with interests, and the multiple possible ways of measuring experience and competence. Therefore, I emphasised that I was equally interested in individuals who used the internet a lot and those who used it very little, trying to encourage individuals with a diversity of experience to participate in the project.

The different aims of the sampling process were:

- **Gender diversity**, including older women (18) and older men (15)
- **Age diversity**, including people between 55 and 64 (13 interviewees) and people 65 and older (20 interviewees)
- **Diversity of experience**. In comparison to age and gender, sampling for diversity of experience is more difficult since its measurement is more complex. For an overview on diversity in terms of computer use experience in the sample, see chapters 5 and 6.

2.3.2. Pilot phase: face-to-face and email interviews

The pilot phase included face-to-face and email interviews with older computer users. Ten participants were recruited through a computer course for beginners and personal contacts (face-to-face interviews), and via a national website for older people (email interviews). After analysis of the pilot, the recruitment strategy was changed to include more experienced internet users who were likely to have used web 2.0 applications (recruiting through an educational organisation for older people).

After interviewing two participants via email, this method was discontinued. Email interviews were found to be unsatisfactory for researching domestication processes. This data-collection method was included in the pilot phase, because it allowed me to recruit interviewees online. However, it was difficult to find a website that both allowed me to post a call for participants and was aimed at older people, as well as being geographically limited in terms of its users.[10] I expected that online recruitment would lead to participants who were more experienced in internet use. Additionally, using email for interviews was convenient, as no travel was necessary. The online recruitment process involved posting a notice in the forum of a national website for older people, as no suitable local website was found. However, email interviews were not used in the main research phase because they were found to produce material which was difficult to use for the analysis of domestication processes. This will be further discussed in section 2.6.

After the pilot phase, the interview guidelines were further refined and a sheet to record different internet use activities (for interviewees to tick in the interview) was developed[11]. This sheet listed groups of activities and online applications (searching for information, various activities sustained by computer and internet use, web 2.0 applications, online use and downloading of different media such as books or films). Interviewees were also asked to fill in a personal details form (with information such

[10] The only social networking site found that was restricted to older people and in some way geographically limited (through its focus on the UK), was contacted, but showed no interest in collaborating for this research project. Gaining contact with the company was, however, necessary, as I would not have been able to legally create an account on a website restricted to older people.

[11] See appendix 2 for the sheet with internet and web 2.0 use activities, appendix 3.1. for the interview guidelines from the pilot phase, appendix 3.2. for the guidelines from the main research phase, and appendix 4 for the personal details form.

as age, gender, household composition, last or current job). Additionally to the interviews, I also wrote up field notes on meetings with interviewees.

2.3.3. Main research phase

Most studies on older people's internet use have focused on questions of access; this study aimed to go beyond such questions and to analyse use in more detail, especially the use of web 2.0 applications. Semi-structured face-to-face interviews were combined with a smaller subsample of video recordings of interviewees actually using their computer.

2.3.3.1. Recruitment process

For the main research phase, interviewees were recruited through three different branches of an education organisation for older people.[12] There are a limited number of organisations that are exclusively for this age group and the chosen organisation was itself run by older people.[13] I approached this organisation because all of its members were potential participants for my study. One of the meetings was also attended by members from another branch in a smaller village. One of the organisers of this smaller branch also published my call for participants on the branch website. Some individuals approached me after I had introduced my project at the meetings (between fifty and one hundred people attended each of the meetings) and left their contact details. Others contacted me through email after someone had told them about the research, or they had seen the call for participation on the website of the educational organisation. Six interviewees were

[12]As well as another computer course, I visited an organisation that facilitated intergenerational learning, in which younger people taught older people how to use computers. The meetings for older and younger people were a very specific setting for learning how to use computers, and the participants of the computer course did not have much experience with internet use. Although I did not use any data from these visits, they helped me become more familiar with older people's experiences of technology use, through conversations which went beyond those I had had with older women and men from my own social networks.

[13]Using an organisation as gatekeeper also means that particular characteristics of its membership shape the sample of the study (e.g. interest in being a member of an educational organisation for older people in retirement). Obviously, those who are not active members of an organisation cannot be reached through this approach. In terms of computers, internet and web 2.0 use, it is possible that the fact that I used an educational organisation increased the likelihood for members to have experiences with these technologies (the organisation also offered computer classes to its members).

recruited through contacts to another research project[14] and one interviewee through one of these participants. All participants lived in a radius of less than an hour of travel from Middlesbrough.

The interviews in the main research phase took place in the home of interviewees (18 participants), cafés (9 participants), the university (4 participants), the library (1 participant), and a home office, separate from the rest of the house (1 interviewee). I asked interviewees where they wanted to meet. Letting participants choose the venue meant that those who preferred to meet outside their homes could not be recorded while using the internet at home, limiting this aspect of the study. More video-recording sessions would have made it possible to make this material more central in terms of the analysis. However, I have argued that interviews are more suitable as a main research method to study domestication and age-gender-technology relations.

More women than men volunteered to participate, and I purposely aimed to recruit more men at the end of the fieldwork phase. Many interviewees also preferred meeting at cafés to being interviewed in their homes, which meant that the video recordings were confined to those whom I interviewed later in the field work. Therefore, the video recordings were only of men. I did video one woman, but her interview (like two other interviews) had to be excluded from the data material as the recording quality made an analysis impossible.

2.3.3.2. Methods for researching domestication (1): Semi-structured interviews

Interview guidelines (see appendix 3.2.) were structured into four different parts. They included: questions on older people's everyday life; computer use and history of learning how to use computers; internet and web 2.0 use; and the context of computer use in terms of other ICTs, including which other ICTs interviewees used or whether they kept those ICTs they did not use anymore. Since internet use can include many different types of activities, a sheet listing such activities and the use of different applications was developed. This was first used at the beginning of the interview, when participants were asked to look at the activities sheet and tick which

[14] The research project focused on ICT use. It used action research and trained individuals to become co-researchers. Except for one, all of the people recruited through contact to this other research project on ICT use were involved in it as co-researchers.

they had completed in the past. In the section of the interview on internet use, they were asked to go back to the sheet and explain their use along the different ticked activities.

Mason (2002a) has argued that interviews should be treated as situations in which knowledge is constructed, instead of situations in which the “truth” is reported. The interviewer’s task is therefore to create a situation which enables the construction of the relevant knowledge. In her discussion of research on the morality of parenting, she argued that questions asking about situations and contexts of parenting give interviewees the opportunity to construct and reconstruct moralities of parenting. Similarly, by asking interviewees about their experiences with, and use of, technology, it is possible to create conditions in which interviewees can explain their internet use and provide insights into domestication processes.

Through the use of interviews with older people we can analyse the experiences of technology use from the perspective of individual members of households. Interviewing one member per household allows the inclusion of more households and potentially more diverse domestication situations. Participants were therefore recruited individually. However, in two households, two individuals volunteered to participate in the study. In both cases I interviewed a woman and a man in separate interviews, which provided me with different interpretations of the same situation. In two other households, interviewees wanted their partners to be present during the interview. This obviously altered the interview situation, as partners were consulted at certain times, and sometimes disagreed with what interviewees suggested. It is however, possible that overall the presence of partners strengthened performance of some aspects of their everyday lives, such as that of a harmonious couple relationship. Since domestication studies analyse the integration of technologies into households, it makes sense to sometimes include joint interviews with several members of households. Buse (2009a) interviewed participants both alone and together, while Hynes (2005) conducted only joint interviews. Similarly, Habib and Cornford (2002) conducted group interviews with several family members, whilst Lally (2002) and Bakaradjieva (2005) carried out individual interviews. Although both strategies obviously provide data on domestication processes, they are likely to result in different kinds of data (Taylor and Vocht, 2011). Although the interviews in which both interviewees were present included data that was only made possible through the partner being present (e.g. disagreement on competence), these interviews focused upon one person, albeit in the presence of their spouse. I did not

allow both participants equal opportunity to express their views, as in joint interviews.

I argue that for my conceptualisation of domestication processes, individual interviews were more appropriate. Interviewing participants alone allows us to gather data on the experience of an individual in a particular household. This method is better suited for exploring domestication processes since individuals do not have to negotiate their stories simultaneously with their presentation of themselves as a member of a couple, which is linked to the conceptualisation of domestication processes. Exploring age-gender-technology relations, I was most interested in the stories individuals told about their own experiences. This also included stories about their relationships and households. Joint interviews are more likely to produce more data about the particular relationship dynamics. Authors who view domestication processes as shaped in terms of a personal, private style of domestication rather than as shaped by social inequalities (e.g. Habib and Cornford, 2002), might find that they can better identify the personal style through the relationship dynamics visible in a joint interview.

It is possible that being perceived as an “expert” encouraged some interviewees to demonstrate their expert knowledge (since I was viewed as a competent conversation partner), and others to take a different position, asking me for advice. Some participants referred to me as “doing something with computers”. They viewed me as computer competent not only in terms of web 2.0, but also regarding the history of computing in the UK. In fact I knew hardly anything about the latter when I began interviewing. This perception of me as someone with expert knowledge could be both a result of me being younger (and therefore having more knowledge about technology), and approaching them for a research project on computer use.

2.3.3.3. Methods for researching domestication (2): Video recordings

The use of video recordings, in which interviewees were given the instruction to use their computers for several minutes, and were recorded,, provided an alternative opportunity to participants for “explaining” their internet use. I let participants decide whether they actually explained on camera what they were doing, or whether they let the camera film what they did, without explaining it. The videos were recorded after the interviews, and most interviewees tended to explain what they were doing

while they were using the internet. Although I originally assumed that videos would be useful for detecting more tacit aspects of internet use practices, participants' verbal explanations in the video recordings provided much richer material for analysing their internet use in comparison to detecting less manifest practices.

For understanding technology use from the perspective of interviewees, videotaping a participant using the technology makes it possible to collect data which is spatially and temporally "closer" to actual use. The data then consists not only of interviewees talking about the use of a technology which is placed somewhere else, but of interviewees using and sometimes explaining a technology in front of a camera. However, the danger of such sessions is that, although the video-recorded internet use sessions can add an additional prompt for other descriptions and explanations of use, there may be too much detailed data recorded on actual internet use, and not enough on contextualising done by the interviewees.

Video recordings are relatively unusual in sociological research (Knoblauch, 2006). Studies using videos as a data collection method often rely on an ethnomethodological perspective (see for an example Gibson *et al*., 2011), although research which goes beyond a focus on the microanalysis of the construction of interactions can be found in anthropological and ethnographic approaches. Erickson (2011) has described the increasing and varied use of video material. He distinguished between more behaviourist use of video and hermeneutic and ethnographic approaches, which are interested in "locally situated meaning in local social action" (Erickson, 2011, p. 185). An example of the latter is Pink's (2004) use of video recordings in her research on gender and homes. Jewitt (2011) described different advantages of using videos: the preservation of the temporal and sequential structure of interactions, a fine-grained multi-modal record of an event showing, for example, body posture and gaze. Videos can also be repeatedly viewed, and since they are increasingly present in many people's lives, offer new possibilities for participant and researcher collaboration. Jewitt has usefully summarised the difficulties of video research as a combination of: technical difficulties, problems in terms of combinations with other social research methods, ethics and anonymity, the reactivity of participants who are not used to a camera, and the collection of large amounts of data that take much more time to prepare or organise, than to analyse.

The use of video in this study enabled me to record computer and internet use as an activity in its immediate context, but necessarily, the presence of a researcher

and camera changed this context. However, the presence of film and video in everyday life (through TV, internet use, cinema) means that interviewees are not inhibited from using computers in front of a camera. Participants interpreted this task differently. Some focused on explaining their computers in terms of software, or went through their bookmarked websites. Some showed me their favourite websites, and others read their emails and laughed quietly. Through the recording of this situation the context of the computer became more visible (e.g. the fact that there was rarely much space around the computers,[15] which objects were positioned next to it, whether the space was quiet or loud). Time, for example the time of waiting for the computer to start, is also recorded on the videotape, with the interviewee waiting. The use of video recordings meant that interviewees were talking about their computer use in different ways, prompted by sitting in front of it knowing that they would be filmed. Compared to observations, the camera has the advantage that it is much easier to record the computer and internet use session on videotape, than to write it down.

Although I had initially planned to use a tripod while filming the computer use sessions, it turned out that in most cases there was no space for both a second person and a tripod. I then filmed with the camera in my hand, and moved it in accordance with the participants' talk. All filmed participants are visible at least once in the video, if they refer to the screen or other things in the room, the camera follows the participants. The interviewees had received the instruction to "use their computer" for five to ten minutes in front of a camera.

The incorporation of video recordings into a study which uses interviews as the main data-gathering method demands that the videos are integrated with the interview transcripts. What is different about the video data has to be preserved, but at the same time transformed, so it can be used together with interview transcripts for data analysis. The preparation of the video data for analysis with the interviews was achieved through first transcribing what interviewees (and occasionally the researcher) said during the video recording session. In a second step, a written description of the frame (what is visible at any one moment in the video) was added.

[15]In all cases the interview had taken place in another room. Filming interviewees using their computers therefore involved first going to that room. Interviewees then made space for the researcher to be present with the video camera in the room. This meant that additional chairs were brought in or moved from other parts of the room. It also highlighted how in all these instances, the computer was used by an individual, and there was no second chair which would facilitate using a computer together next to the one which would usually be used by the interviewee.

Whenever this changed, the change was described and this description inserted at the place at which the change started. What happened in the picture was transcribed as V for visual, the interviewee with I and the researcher with her initials (SK).This resulted in a video transcript which had (apart from too much information on gestures) the right level of detail. But I found that analysing the gestures took me too far away from the domestication of the technology and into a more ethnomethodological analysis.

Excerpt from the transcript of video recording D (I is the interviewee, Steven; SK is Selma Kadi, V is the description of change in the camera frame):

> Location description: Computer in the parents' (interviewee and wife) bedroom on the first floor of the house. At one of the walls to the side of the bed. Interviewee brings me a second chair. Looks like a relatively tidy space.
>
> V: computer screen, a bit of the desk, desk light. On the computer screen: two cats.
>
> I: not my choice of screen saver either.
>
> SK: mhm
>
> V: Interviewee opens the internet browser. Webpage loading.
>
> I: That is so slow. I have a lot on favourites. My desktop at work used to be absolutely full. A whole ton of sites. Disability allowance, (). Because I am very lazy when it comes to using the computer. If I can put a shortcut on, I use a shortcut.
>
> I: Then you get straight into it
>
> V: hand pointing to the computer
>
> I: rather than through the actual browser.
>
> SK: Mhm
>
> I: but I haven't got round to doing it again on this.
>
> V: Interviewee goes to favourites and subcategories of favourites.
>
> I: these are all my racing sites. Most of them, anyway. It gives me a chance to look up what I wanted to look up this morning I forgot.

This extract from the transcript of the video recording with Steven demonstrates how the participant is prompted to comment on the computer desktop (the background picture of the desktop) and his practices of use (use of short cuts when

possible on his work computer). However, the descriptions of change in the camera frame do not contribute any useful data in addition to the speech.

As discussed earlier in this chapter, interviews are the most common main data gathering method in domestication studies. This study combined a more observational audiovisual data collection element with a focus on interviews. Initially, these video recordings were planned to obtain more data on tacit practices, and "make visible what the interviewees would not be aware of". However, the video recordings did not convey tacit practices which could be easily integrated with analysis of the interview material. Instead, they highlighted the spatial environment of the computer, as well as temporal aspects such as the time a computer took to boot. For the analysis of domestication processes, the explanations interviewees gave of their use were more valuable than the observation of practices of use.

2.3.3.4. Data analysis

The analysis of the data involved first transcribing the interviews and the videos. The transcripts were anonymised and then coded (for which NVivo was used), and analysed. Coding as part of data analysis has been used in different approaches (Coffey and Atkinson, 1996; Dey, 1993) which vary in the ways in which theory is incorporated in the coding strategy. While some approaches emphasise the role of generating theory from data, others work with codes which are more directly informed by theory. My analysis was guided by the three different research questions. Coffey and Atkinson (1996) distinguished different phases of data analysis. Early steps in coding reduce data to make it more manageable and easy to retrieve specific excerpts. Later codes add complexity to the data, highlighting new links between different parts. Assigning codes, even in the first phase in which the aim is to order data, can also be seen as interpretation. Codes are then systematically explored and interrogated to develop different aspects of the analysis. My analysis involved reading the interviews, re-reading them, developing NVivo memos on different issues (e.g. the spatial positioning of the computer), going back to the individual interviews, developing the analysis through further interrogation of the data, and finally writing it up.

Some aspects of domestication processes are manifest, for example the acquisition of a computer. Interviewees are usually clear about these aspects and can simply report them. Other aspects are much less manifest and require codes that interpret

what interviewees are saying, rather than reporting it. This might move away from the participant's perspective and lead to conclusions participants might not draw themselves. For example, interviewees might argue that men are more interested in technology than women, whereas I might analyse this as an example of an experience of a male culture of technology, in which men find technology use particularly pleasurable (Kleif and Faulkner, 2003). The analysis of domestication begins with the experiences of interviewees as data material, but moves beyond this description to interpret domestication processes. The analysis of the data material is therefore a second order interpretation. Users interpret technology through the processes of integrating it into their everyday lives, and I have interpreted their attribution of meaning to technology in my analysis of the interview transcripts.

2.4. Ethical considerations

The ethical aspects of the research project were linked to the potential vulnerability of older people as research participants, and to the topic of the research. Physical ageing could have an impact on the interview situation if interviewees are easily exhausted, frail or cannot hear very well. Additionally, the research topic of technology use in everyday life could create ethical challenges, since it could be related to very personal experiences of interviewees. Interviewing older people is not necessarily different from interviewing younger people (Wenger, 2003). However, interviewee age and, for example, age difference between interviewee and interviewer can have an impact on the interview situation. For some interviewees, I was almost the same age as their children or indeed their grandchildren, while conversely, for me interviewees were part of either my parents' or grandparents' generation. Together with the focus on everyday life in the interviews, this could have had an impact on the way we related to each other, drawing on experiences from our family contexts. I experienced the atmosphere at the meetings with interviewees most often as very friendly and relaxed.

Despite this, interviews with older people can be different owing to physical ageing processes (Wenger, 2003). Sensory impairments can be an example of physical ageing which needs to be taken into account when interviewing some older people. This would require a researcher to make sure that interviewees can understand them while they are being interviewed. Physical ageing in terms of motor skills or sensory health issues did not seem to impact on my data collection, as we were always sitting at tables during the interviews, and interviewees did not seem to have

problems understanding me, even if interviews took place in cafés rather than the home (with limited possibilities for controlling noise). Therefore, I did not perceive physical ageing processes as endangering the capability of participants to participate, or having a strong impact on the interview.

This is probably because of the recruitment strategy which focused on an educational organisation for older people and contacts through another research project. Very frail older people might not participate in such an organisation, attend a general meeting at which the project was presented, or volunteer to be interviewed. Recruitment through the contacts to the research project did not include the same barriers of participating in an organisation. However, this led to the inclusion of men who were comparatively younger than the men recruited through the educational organisation, which made them less likely to be affected by physical ageing in a way that would impact on the participation in an interview.

Older people are sometimes seen as being easier to recruit if they are retired, owing to their freedom from the time constraints of paid work (although there can be time constraints due to non-paid e.g. caring work) or other activities. Another possible aspect of age that might be important for research processes concerns age relations and older people feeling lonely (Wenger, 2003). The interview can constitute a welcome change, but at the same time it might be difficult for the interviewer to end it if the interviewee wants to continue. However, as Victor *et al*. (2009) argue, loneliness is not necessarily a familiar experience for all older people. I did not experience a situation in which an interviewee appeared to be trying to prolong the interview after I had asked all my questions. The end of the interview was usually followed by a more informal talk in which participants also asked me questions. This often involved questions concerning my research project, studying and living in Teesside, and particularly about Austria, with interviewees sometimes sharing their holiday memories of travelling there. I enjoyed these conversations, and did not perceive that any of the participants found it hard to end our meeting.

Lundgren (2012) analysed different examples of older people as positioning themselves in terms of their age identities in interviews, arguing that the method of the qualitative interview created particular conditions for such positioning. Whereas age-technology relations position them as less able users, and they are rarely included in studies on internet use, my study emphasised the need to explore the experiences of individual older people in detail. In this sense, it paid attention to an aspect of older people's everyday lives which is rarely analysed. Furthermore,

questions about older and younger people's internet use allowed them to also talk about perceived general differences alongside their own experiences of use. Technology use, as an element of many people's everyday lives, can be linked to a variety and potentially also very personal or intimate experiences and could involve sharing very private information with the interviewer. It was therefore important that the interviews were anonymised after transcription. Similarly, videos were transcribed and anonymised.

Technology is part of our lives, but everyday understandings of technology more often rely on techno-determinist ideas than analyses of the social shaping of technology. My study interrogates areas which might seem to involve mundane activities to many interviewees. I have developed a different perspective on taken-for-granted aspects of everyday life, which means that the practices and routines of "everyday life" (rarely the focus of attention), are made to appear "strange" through the research perspective (Halliday, 2007, p. 13). Although this positioning of the research focus on everyday life can make the research more interesting for potential participants, it can also be the source of feelings of insecurity. Although most participants openly shared many everyday experiences, some found it difficult to understand how their personal experience or views on technology could be essential for a supposedly "objective" scientific research project. Although I highlighted the approach of the study and my interest in older people's personal experiences with the internet during the recruitment phase and before the interview, some interviewees still seemed surprised in the interview situation.

2.5. Methodological reflection

The analysis of the interviews in the pilot phase enabled me to refine the interview questionnaire. Approaching the educational organisation and contacts of the research project facilitated the recruitment process. Video recordings of technology use can be helpfully combined with interviews to study domestication processes. However, the usable additional data they provided was more "talk", rather than observable tacit practices. Therefore, the priority of interviews for studying domestication processes was confirmed.

The inclusion of women and men was important to demonstrate the diversity of internet use experiences. Equally, the recruitment of individuals with more and less experience allowed me to analyse different data on the domestication and use of

the internet. It is important to note that the inclusion of “younger older” and “older older” individuals did not lead to two distinct groups in terms of use. For example, some of those who started using the internet later used web 2.0 more than those who were younger and had started to use the internet as part of their employment.

The limitations of this study are linked to the recruitment process and the resulting similarities among research participants, as well as the location of many interviews outside the home, which led to fewer video recordings. I will also discuss the usability of email and video recordings for studying domestication processes in the following section.

2.5.1. Sampling participants for a study on older people’s technology use

Some similarities among interviewees as well as the size of the sample limit the possibilities for generalising the findings of this study. The recruitment process aimed to include interviewees who were 55–64 and 65 and older. This resulted in some heterogeneity in terms of chronological age. However, none of the participants was older than 80 years. It could be argued that this results in the exclusion of individuals who are more likely to be frail owing to their age. The recruitment of participants through an adult education organisation and an action research project is also likely to lead to participants who have higher educational qualifications than the general aged population. The sample is also not diverse in terms of ethnicity. All respondents were white, which corresponds with the population profile of the area of the North East in which the study is situated. In addition, research participants who respond to calls for volunteers are self-selected. While it is difficult to assess the extent of the self-selection, it could be argued that those with an interest in technology use, and/or with previous research experiences (as they agreed to participate in research), those with grandchildren, and family members who lived abroad (as a researcher I was of a similar age to many of the participants’ children or grandchildren, and I can be identified as having grown up abroad because of my accent), would be more likely to participate.

2.5.2. Using email to collect data on domestication processes

In comparison to face-to-face interviews, it was much more difficult to access information on the context of technology use from email interviews. Kazmer and Xie

(2008) found that email interviews are a challenging method in terms of participant retention, but that interviewees had more possibilities to influence the duration of an interview and to edit their own contributions. Email interviews are also seen as challenging for researchers because it is necessary to maintain the interest of the participant over a longer time period (Kivits, 2005). In my study, email interviews were included in the pilot to evaluate whether they could complement face-to-face interviews. Since the focus of the study is internet use, this method could include online communication, not only as the subject but as a data-gathering tool of the study. However, it was difficult to obtain satisfying information from research participants about the context of their internet use in email interviews. Interviewees in face-to-face interviews are presenting themselves, their use of the internet, and the ways in which this is connected to their everyday life. In emails they share less information because of the reduction of text, and have more possibilities to control any information that is shared. The email interviews seemed very reduced in terms of the richness of data they produced, and relied upon a good understanding of the research perspective by the participant to create the kind of data needed. When comparing methods used in social gerontological research, Bytheway (2011) emphasised how interviews include participant observation, and communicate meaning not only through the conversation, but other things which happen at the same time. In the email interviews, this extra information was absent. Although my questions were answered, I sometimes felt that I did not get the type of information I was looking for. The everyday life of research participants is part of the context of internet use that was researched and was observable during face-to-face interviews, particularly in their homes.

2.5.3. Including video data in research on domestication processes

The video recordings of research participants using the internet did not, as expected, convey useful information on tacit practices of technology use. Instead they highlighted temporal and spatial aspects of the computer which were not part of the interviews, and the internet use situation provided different prompts for talking about the internet. The explanations of interviewees still remained central in the analysis, but did not reveal information which differed significantly from that obtained in the face-to-face interview. It is possible that with more resources and a different design in which a camera is installed in a room with a computer, different habits and practices of computer and internet use could be revealed over a longer

time period. Limited resources prevented me from exploring this. It is, however, unlikely that this would contribute to a better understanding of the domestication of the internet, since it would reduce the possibilities for the participants to explain their behaviour. In the video-recording sessions in this study, interviewees could explain to the interviewer behind the camera what they were doing, which is indispensable for data to be used for analysing domestication processes. It is also very likely that use of the computer alone in a room (the common situation for many interviewees), makes it more difficult to study domestication through video recordings of computer use situations.

An alternative approach could be based on research participants creating video-diaries about their internet use. But the form of a video-diary would significantly limit the opportunities for the researcher to ask specific questions related to domestication processes (e.g. long-time changes in use in terms of the spatial setting, the use together with other individuals, etc.). However, combining the method of video-diaries with interviews would gain different types of data, but owing to age-technology relations, video-diaries might also appear difficult to produce for some older people.

2.6. Conclusion

This chapter has discussed the methodological issues connected with researching internet use from a domestication perspective. Since this perspective focuses on analysing the meaning of technology in the everyday life of users, a qualitative approach is best suited to collecting data on the diversity of internet use experiences. This study has combined semi-structured interviews with a smaller subsample of video recordings, in which participants used the internet in their homes. The transcripts of interviews and video recordings were analysed through different rounds of coding and the writing up of memos, guided by the three main research questions. The following two chapters will discuss existing research on age and technology use, and then gender and technology use, before the findings of the study are presented in chapters 5–7.

Chapter 3: Exploring internet use in older people's everyday lives

This chapter contextualises the study within existing research on ageing and technology. I will start by outlining **sociological and feminist perspectives on ageing**, which also analyse age as socially constructed and focus on the diverse experiences of older people. Subsequently, I will go on to show how **older people's everyday lives** are shaped by class and gender inequalities. In this section I will also discuss household and external social relationships as the context for computer and internet use. Subsequently I propose a critique of the gerontechnological approach for studying technology, which neglects the analysis of technology as socially shaped. Although feminists have studied gender-technology relations, older people have often been omitted in these analyses and social gerontology itself lacks a more thorough analysis of technology as socially shaped. This chapter reviews literature on **age and internet use**, arguing that we need a research perspective that not only combines gender, age, and technology use, but also enables an analysis of the processes of mutual shaping between them.

3.1. Sociological perspectives on ageing

Sociologists have critiqued the use of concepts such as "old people" or "the elderly" in social gerontology. Bytheway (1995) has argued that using "old" or "the elderly" as static terms, instead of relative terms such as "older people", hinders an analysis of the social construction of age. In contrast to this, viewing age as socially constructed means highlighting how age is seen as relevant, and made relevant through social processes. Ageism can be defined as a set of beliefs that leads to a negative perception of ageing and excludes groups of people, defined by chronological age from resources (Bytheway, 1995). This has been studied less than other discriminating ideologies such as sexism and racism (King, 2006). Ageism is however also different from sexism and racism as individuals are expected to radically change their status during their lives (Calasanti and Slevin, 2006). Moreover, positions of gender, age, class or ethnicity are not independent of each other. How they shape each other in diverse ways has been studied as intersections of different categories. This will be discussed in greater detail in chapter 4. Age is a rather different category as people move from one status to

another. The study of the lives of older people approached from a sociological perspective in relation to the lifelong process of ageing has also changed over time.

Social gerontology has developed different terms like the third age (after retirement and before dependency) and fourth age (following third age), to distinguish between different phases in people's lives, which were subsequently critiqued as being based on mainly middle-class experience (Arber and Evandrou, 1993). Earlier studies which analysed ageing through the concept of the life cycle were criticised for presuming a sequence of universal life stages for everyone. Studies focusing on the life cycle neglected historical change as the context of people's lives, and overlooked variation in the timing of different life-cycle stages (Bryman *et al*., 1987). The life course was seen as an alternative which allowed the analysis of different phases, linked to earlier phases in the lives of groups of individuals (Arber and Evandrou, 1993). This made it possible to avoid focusing on later phases in isolation, and instead explore links between later and earlier experiences.

Studies on older people and ICT use often group subjects within smaller groups defined by chronological age (e.g. 55–64, 65–74, 75+ in Peacock and Kuenemund, 2007). Groups of people with the same chronological age are also used in national and international statistics on populations. Similar chronological age does not directly affect computer and internet use. However, because of the link between retirement and chronological age, many people who are 65 and older share experiences (e.g. of retirement) that those who are younger do not have. In this study, participants were either 55–64 "younger older" or 65 and over "older older", a distinction also used by Ling (2008) to study ICT use. It creates one group in which older people are likely to either be in paid work or to have left work more recently, and another group in which the participants are more likely to have been out of work for a longer time. Those who are working or have left work recently are more likely to have had an introduction to the internet and/or more recent internet developments, such as web 2.0, in the context of work. Those who have been retired longer, are more likely to have learned to use these technologies independently of work. This difference could impact on the learning processes and the uses of the internet, as well as domestication processes.

Not everyone under 65 is in paid work. Many in this age range may be in unpaid work, training, experience ill health or, indeed, may be unemployed. Moreover, some individuals are in employment that does not include the use of computers. These are all circumstances in which those in the younger group might not have

greater access to computers than those who are 65 or over. Nevertheless, recruiting both sets of participants ensured that computers were being used by some interviewees as part of their work, while another group of participants were using them only in retirement.

A feminist perspective on older people's everyday lives has to overcome the earlier omission of older people and age-based discrimination in feminist research. Calasanti and Slevin (2006) in their proposal for a feminist research agenda on ageing, suggested that it is necessary to examine age relations in terms of advantaged and disadvantaged groups and develop an analysis of how ageism, gender relations and other inequalities intersect, as well as how a focus on age impacts on feminist research and practice. My study combines feminist technology studies with a sociological analysis of ageing and internet use to show the role of gender, not only in how gender shapes older people's everyday lives, but in how gender and age combine in different ways in the domestication of computers and the internet. As this chapter argues, differences in older men's and women's lives have an impact on how they can use computers. Previous research also identified associations between masculinity and technology (Faulkner, 2001; Henwood, 1993). In accordance with this association, younger people are often viewed as particularly competent in the use of ICTs. Besides other factors such as the lack of resources for learning how to use computers, through the social construction of ageing (Bytheway, 1995) this link between younger people and new technology also serves to additionally exclude older people from using technology. And while many older people, especially older women, use computers and the internet less than younger people, this is not true for all older women and men. Studying ageing, gender and technology together makes it possible to analyse the significance of gender and age for understanding older people's internet use experiences.

Gerontology often focuses on the "problems" of older people. Sociologists criticise this tendency to see ageing mainly through difficulties and welfare needs, and argue for taking diverse experiences into account (Arber and Ginn, 1993a). One result of the problem-focused perspective is a neglect of older people's agency (Tulle, 2004). This broader trend of concentrating on the problems of ageing, in which technology use by older people is often framed as a thoroughly difficult relationship, has also been criticised by sociological research on ageing and technology (Joyce and Mamo, 2006). While this certainly reflects the experiences of some older people with particular technologies, it does not adequately represent the diversity of older people's experiences or theorise the role of the social construction of age as

juxtaposed with competent technology use. Furthermore, this approach can also reinforce ageist perceptions of older people as, per se, technologically incompetent. It is important here to draw on previous feminist technology research to study technology as socially shaped, not only within gender-technology relations, but also within age-technology relations, and to look at links between age, gender and technology. Interrogating the internet as a domesticated technology provides a research perspective that enables an analysis of the ways in which technology is shaped in the process of being integrated into everyday life. Such integration occurs within social relations which can both constrain and enable older people to use the internet.

3.2. Everyday life: social inequalities and social relationships

Before reviewing research on age and technology, I will discuss class[16] and gender as social inequalities that impact on older people's computer and internet use. This study focuses on the use of these technologies in everyday life. Often, computers are used at home, the home being an important context for the appropriation of the technology.[17] The home is not only a context as a socially shaped physical environment, but also as a place where people live alone or with others. Social relationships within households and between different households are also important for understanding the domestication of a technology used in the home.

3.2.1. Social class and older people's internet use

Older people have long been excluded from stratification analyses. This is similar to the earlier neglect of women's class position (Arber and Ginn, 1991b). Like early

[16]Class is a social inequality (McMullin, 2004b), with an on-going debate on different approaches to its measurement (e.g. Le Roux *et al.*, 2008; Atkinson, 2009). In a recent study on younger people, internet use and class in the UK, Lee (2008) argued that occupational classifications can be utilized to analyse the importance of economic resources for internet use and non-use. The distribution of economic resources is understood as creating different economic groups (classes) around which identities and cultures are formed.

[17] From the perspective of the domestication of media and technology, Silverstone *et al*. (1992) described ICTs as links between the private household and the outside world and other private households. ICTs are links because they are not only objects integrated into the household (e.g. involving the placing of the technology in the home environment) but also information carriers of (media) content, e.g. TV programmes.

studies which deduced women's class position from the position of their male partners, studies on older people's class position often used the "head of the household" to define a household class position. Older women were most likely not to be taken into account in stratification analyses. Their class position would be defined through the position of a man as long as she were younger; and then further neglected because an older man's class position was less often studied. This neglect of older people in stratification analyses could also be linked to the importance of paid employment for analyses of social class. Arber and Ginn proposed using the previous occupation of women and men for measuring social class. Even if they had stopped working many years before, this was found to be a useful indicator for measuring social class.

Social class has an impact on the economic resources (pensions), education (likelihood of being poorer if less well-educated), and the health (exposure to health hazards at work) of older people (Walker and Foster, 2006). Although there is free access to computers in libraries or potentially in the homes of friends or family (which might still involve travel expenditure), computer ownership and internet use at home need financial resources (although a computer can also be passed on for free). Changes in computer and internet technology can also create the need for repeated investment in new hardware. Economic resources can also be needed for computer training and computer maintenance support services. Income and formal education are both linked to internet use (Office for National Statistics, 2010), showing that internet use increases with income in the UK (data for 2011; Williams, 2011). Among those with an income over £41.600, internet use is 98%; among people with an income of less than £10.399, only 69% have used the internet. Similarly, 97% of individuals with a degree have accessed the internet, while only 45% of those without formal qualifications. Computer and internet use also depends on the health status of individuals, and internet access is lower among adults with a reported disability.

3.2.2. Gender and older people's everyday life

Women's and men's experiences of retirement are different (Bernardi *et al*., 1995). Among other, women tend to have different work experiences owing to gender inequalities such as lower-paid and lower-status jobs. They are more likely to work in subordinate roles and in part-time employment. As gender role expectations of women doing housework persist into retirement (Niemi, 2009), the change between

employment and retired life for many women is less distinct. Because of this, women's time resources for computer use can be less than men's. As will be discussed further in chapter 7, gender inequalities in employment also affect computer and internet use in terms of familiarity with computer technology. On the one hand, such gender inequality can lead to women being in contact with computers in lower-status jobs (such as in secretarial work), and men being less familiar with them in more managerial roles which might rely on secretaries. On the other hand, men in higher-status jobs are more likely to have the economic and time resources to access computer training. Additionally, men are more likely to work in higher-status jobs which involve computer and internet use.

Besides housework, providing care is another area in which there are different gender role expectations (Arber and Ginn, 1993). Especially between the ages of 45 and 64, women provide more informal care to others. Informal care work is also influenced by class, especially in the type of care provided (co-resident versus extra-resident care). Co-resident care is seen as less desirable than extra-resident care, which can only be provided if there are sufficient economic resources (e.g. for car ownership). There are significant class distinctions in terms of the need for care provision, owing to differences in health. Unskilled and lower-skilled older people are likely to need care earlier in their lives, and to have fewer resources to buy it. Although extra-residential caring was not covered in the questionnaire, interviewees reported on how the choice of where they lived, daily routines and internet use itself (helping older relatives to communicate via email, looking up information on social services related to care for older relatives) were linked to their caring responsibilities.

Retirement is often associated with having more free time, and internet use is linked in several ways to leisure. For example, the internet can be used to pursue activities such as playing games, as well as supporting other leisure activities, such as planning a holiday. However, computers are not necessarily always perceived as a leisure technology (Lally, 2002). Different computer use activities and different ways of relating to computers, as well as experiences with them, can result in computers being associated more with leisure than work. In earlier studies of leisure, which focused mainly on the leisure of male workers, women were neglected. If their leisure was studied separately, it was seen as a derivation from (white) male workers' free time. Since those early studies, women's experiences of leisure have been addressed in their own right (Green *et al*., 1990). Buse (2009b) studied computer use among older people and found that older women's and men's

experiences of ICT use were different in terms of the negotiations of the boundaries between work, retirement and leisure. Older women performing domestic and caring work activities found it especially difficult to define activities as either work or leisure.

As Krekula (2007) argued, social gerontology has often neglected older women's experiences, including them as objects instead of subjects. Instead of exploring their experiences, research relied on assumptions about older women as "others". Older women's position as women on the one hand, and older people on the other, has been discussed as creating a double burden. As older women, they were more discriminated against than either younger women or men of any age. This phenomenon was called "double jeopardy". Wilinska (2010), for example, analysing newspaper articles on social policy in Poland, found that ageing was sometimes shaped by gender, and gender was sometimes shaped by age, but the intersection of age and gender always created discriminatory practices. According to Krekula (2007) the dominance of the "double jeopardy" thesis prevented a more detailed study of different intersections between age, gender and other categories. A focus on age and gender in relation to internet use allows the study of different outcomes of age, gender and technology use. Through a qualitative study of domestication processes, using interviews as the main data-gathering tool, it is possible to analyse such processes through the experiences that older women and men themselves describe.

3.2.3. Household composition, social relationships and internet use

Computers and the internet are not automatically used by older people as soon as sufficient economic and time resources are available. Instead, the use of technology depends on a process of domestication, in which technology is socially shaped in the context of its potential use within a household. In this process, technology is associated with different meanings. Whether it is actually used collaboratively, or individually, the internet has to be integrated into the everyday life of the whole household. The relationships between different household members, who have to negotiate their use of technology with others, are therefore an important element of the domestication process. In the case of single households particularly (but not exclusively), the domestication process might also involve people living outside these households. It is not only the composition of the household (e.g. an older person living together with a partner, adult children, grandchildren, older siblings, older parents, lodgers), but also the history of the household that is important for the

domestication process. Individuals who live longer than their partner constitute the group which has the lowest rates of internet access in the UK (Williams, 2011). This especially affects women, since there are more widowed women than men. Additionally, men are more likely to use computers, and some women may have relied on their male partner for computer use and subsequently not wished to learn how to use computers after their partner had died.

Hollows (2008) discussed how domestic labour and domesticity more generally are gendered. While feminists have responded to this in varied ways, from a condemnation of housework (and housewives) to essentialist celebrations of women's unpaid work in the home, Hollows argues for a position which does not see domestic labour as valueless, but which avoids the essentialist links between women and domestic labour. For the study of the domestication of technology, it is important to take the gendered character of domestic labour as well as the broader gendering of domesticity into account. The domestication of the computer in the home is also an integration into gendered spaces and household practices. Households comprising women and men not only include spaces with different gendered connotations, but different parts of the home can be gendered by different use practices. For instance, kitchens might be used more by women, or workshops more by men. Both these spaces already include other technologies, which are also shaped by gender-technology relations. Further, there are links between domestic labour and computer and internet use. Similarly to domestic tasks like cooking, computer use can be experienced variously as leisure or as work. While men might choose to cook, women might be expected to cook. Different activities for which the computer can be used can be similarly gendered: for example, women might be expected to do less enjoyable tasks (e.g. organise travel), while men might choose to do them.

Those who live in the same household are part of the domestication process in several ways, including through their own use and perceptions of computers and the internet. Co-residents are also possible sources of support as both computer owners and educators. However, as will be discussed in chapter 5, living with experienced computer users can also be a hindrance to learning. Through the process of domestication, different roles in relation to a technology can be ascribed to different members of a household, which then contribute to the gendered character of the computer in the household. These roles can reflect dominant associations: while masculinity and technology are linked in relation to computers,

special competencies in relation to cooking or cleaning technology are attributed to women.

Similarly to people who share a household, relations with friends and family members in other households can provide individuals with resources for using computers. Technologies can also be accessed in other households, and communication devices can be used to communicate between them. Although users might often be alone while they are using a technology, in terms of the domestication process, it is important to see how computer and internet use are often collective accomplishments of technology integration into the moral economies of households. Relationships can enable internet use, and the internet can be also be a means to maintain relationships. Similarly, as will be discussed in chapter 6, the domestication of the computer and the internet and the way in which computer use is negotiated as an aspect of relationships, can also lead to avoiding certain uses, such as discontinuing to use an email account to avoid being included in circular emails with ex-partners.

Reflecting the dominant perspective of studying age mainly through problems of age, the everyday lives of older married couples, which at first glance seem less problematic, have received little attention from research (Askham, 1995). Yet these everyday environments are important as the context for computer and internet use. Especially if several people live in one household, the domestication of a technology in everyday life is likely to be shaped by relationships and negotiations within that household. It is therefore necessary to study older people's domestication processes as linked to household composition. In my study, the majority of participants live in two-person households with their partners. Besides the relationships within the household, others might be less important but still relevant for the domestication and use of the internet. Family members who live in other households, and friends and neighbours can also be part of the integration of technology into everyday life. For some older people, relationships with grandchildren are an important element of their adoption of the internet. These relationships also have to be understood as shaped by gender. Scraton and Holland (2006) found that grandfathers differed in how they viewed spending time with their grandchildren, ranging from enjoyment to experiencing it as a burden. In comparison to grandfathers, grandmothers carried out more caring work. In such circumstances, the internet is integrated into differently gendered relationships between generations. For older people, this is also an additional type of relationship

which can involve technology use. However, in ageist discourses, ageing is often characterised by a lack of social relationships.

Loneliness and isolation have been researched as more difficult aspects of older people's lives, reflecting the focus on "the problems" of ageing. Nevertheless, Victor *et al*. (2009) found that loneliness and isolation were not the norm among older people, and were experienced only by a minority. While loneliness and isolation are on the increase for a subgroup of older people, they remained stable or decreased for other groups. Men's and women's friendship networks differ, and because of men's shorter life expectancy, older women often rely on different social support networks (Scott and Wenger, 2005). Research on older people and social support networks has often focused on how older people can be supported by social networks, but rarely on how older people contribute to these networks themselves (see for an exception, Kahn *et al*., 2011). An analysis of the domestication of internet use makes it possible to see how technology use and non-use involves more than an individual who uses a technology. Technology use is often the result of support from various sources (such as friends, neighbours, children, grandchildren), but sometimes it can occur in the absence of such support, with the user relying on telephone helplines instead (e.g. the experience of Tamara in this study). Many of the study participants were involved in helping others to use computers and the internet, be they friends or relatives, or more formally as volunteer teachers in computer courses (as will be further discussed in chapter 6).

3.3. Researching older people's computer and internet use

This section discusses existing research on older people's use of technology, specifically that related to the computer and the internet. The first part develops a critique of gerontechnology, a research tradition that will be shown to have limited perspectives on ageing and technology. This approach sees ageing as a problem and technology as the solution. Following this, older people's access to the internet in the UK and the relevance of gender for access are discussed. For instance, while older people access the internet less than younger people, older women have the lowest rates of internet access. This section then focuses on recent research which has analysed older people's computer and internet use in ways that conceptualise age and technology relations as more complex than the gerontechnological approach.

Sourbati (2009) argued that it is important to further research the circumstances, needs and expectations that contribute to older people's use and non-use of the internet, instead of expecting them to benefit from internet use. To analyse computers and the internet as technology from a sociological perspective, it is necessary to examine their use not in isolation. Instead, we have to analyse the processes of domestication which attribute meaning to ICTs in the context of households. The analysis of constellations of gender, age and technology enables us to examine older people's computer and internet use, not disconnected from their lives, but in connection with those social relations in which the domestication of the technologies takes place. Attitudes towards technology are another element of the domestication process, which also takes earlier experiences with technology into account. Through a focus on web 2.0 applications, it is possible to look at problems of accessing computers and the internet, but also the domestication of specific uses (e.g. social networking sites), which involve user-generated content and publicly accessible online communication. Older people's domestication of computers and the internet should not be confined to an analysis of problems of general access. In this study web 2.0 use is also analysed to demonstrate how the adoption of more recent internet developments is also shaped by gender and age.

3.3.1. Separating the technical and the social in gerontechnology

Gerontechnology, which has developed since the 1990s (Oestlund, 2004; Joyce and Loe, 2010) focuses on the development of assistive technology and is based on a specific conceptualisation of the relation between ageing and technology which has been critiqued by sociologists. In relation to ageing, gerontechnology assumes that technology is mainly a means to help alleviate the bodily problems of ageing so as to remedy or reduce their negative effects. This defines ageing as an undesirable experience, anchoring gerontechnology in the context of the negative portrayal of both ageing and older people.

Gerontechnology perspectives are based on a distinction between ageing associated with physical problems, and technology as a material solution to these problems. The distinction between the material solution on the one hand, and the problems of ageing in a society with increasing life expectancies on the other, can be easily deployed in marketing research, where technology and ageing are studied in terms of markets for assistive technology, which reductively perceive older people merely as consumers (see for example, European Commission, 2008). An ageist

perspective which views older people as a burden on the welfare state, would also be inclined to favour the “technological solutions” gerontechnology promises. From a sociological point of view, assistive technology is only one type of technology used by older people, but the focus on this redefines technology, suggesting its only purpose is the alleviation of the problems of bodily ageing (Oestlund, 2004). Yet, older people’s everyday lives are, like those of younger people, often rich in experiences with technology which are not limited to that of the assistive sort (Joyce and Mamo, 2006).

Viewing technology as independent from social relations neglects the fact that it is social during development, use and non-use; this has been demonstrated in feminist technology research and sociology (e.g. Wajcman, 2004). Omitting the social shaping of technology creates an obstacle both to understanding technology in society, and to appreciating how assistive technology and its use depend on social relations. While the internet is not a technology developed through gerontechnological efforts, the way in which age and technology relations among older people are researched, or how the research questions are framed, can have the same limitations as the gerontechnological approach. I argue that we also have to examine the social construction of age as shaping the use of technology in everyday life.

Studies which analyse the ways in which technology has an unidirectional impact on society have been criticised by feminist and social construction approaches to technology, which demonstrate, for example, its interpretative flexibility (see chapter 1). Nevertheless, much recent research on the internet has examined its impact through quantitative studies, such as psychological measures of loneliness in relation to internet use (e.g. Sum *et al*., 2008a; Sum *et al*., 2008b). Although it is important to examine the internet in relation to loneliness and social isolation, researching its “effect” seems to suggest that the internet could be perceived as something that stands outside social relations, yet has an effect on society. Contrary to this approach, feminist technology research and sociological research on technology has demonstrated how technologies and their use also need to be studied as social phenomena. As will be further discussed in chapters 4 and 7, gender and technology are examined as mutually shaping in this alternative perspective. In comparison to gender-technology relations, age-technology relations have hardly been theorised so far (see for exceptions, Neven, 2010; Loe, 2010). However, science and technology have been shown as intertwined with ageism in various ways. Joyce *et al.* (2007) argued that ageist ideals and relations are

maintained through norms of youthful bodies, the design of technology for youthful bodies, and the rationing of medical technology. I argue in this study that the social construction of age in internet use should be explored as the mutual shaping between a social inequality (McMullin, 2004a) and technology.

3.3.2. Internet access in the UK

Access to computers and the internet is shaped by social inequalities. Different authors have discussed exclusion from the internet as a "digital divide" (e.g. van Dijck, 2005), separating those who use the internet and other ICTs from those who do not use these technologies. Authors within this tradition tend to separate the technology of the internet from social relations. This also makes it possible to view the internet as a technology with one impact, which is to decrease social inequality. In this perspective, access to the technology empowers disadvantaged groups. In contrast to this, an analysis of the internet as a technology within age-gender-technology relations sees the weakening of social inequalities as only one possible outcome of internet use. From a research perspective which views, for example, gender and technology as mutually shaped, both can be shaped in various ways in different use contexts.

Regional disparities are distinctive in the UK in relation to internet use, with 97% of people living in London, and 71% of people living in the North East using the internet (Office for National Statistics, 2010). Van Dijck (2005) discusses regional differences in internet access as being linked to inequality in terms of resources between different regions. Therefore, the concentration of wealth in some regions is likely to increase internet access, while its lack is likely to lower access rates in other areas.

This study focuses on gender and age in shaping internet use among older people. I argue that gender and age have to be understood as elements of age-gender-technology relations, including mutual shaping processes which affect not only internet access but also use. In terms of internet access, age and gender were identified in several quantitative surveys as social inequalities which shape access. Dutton *et al*. (2009, p. 18) found that the difference in terms of access had decreased between 2005 and 2009 to 3% between women and men of all ages, with 68% of women and 71% of men using the internet. However, men had on average used the internet for a longer time, and also had home access for a longer

time. Dutton *et al*. stated that between 2005 and 2009 the number of internet users had only increased for the 25 to 54 year-old group. Internet use was most widespread among students (100%), followed by employed people (86%), and unemployed (48%). Least likely to be users were the retired (34%) (p. 18).

More recently, Williams (2011) also found that in the UK fewer numbers of older people have accessed the internet. While 98.7% of those between the ages of 16 and 24 had used the internet, only 23.8% of those older than 74 years had done so. Moreover, there is a difference in one-time access of 4.8% between women and men. At the first quarter of 2011, 8.71 million adults (17.5%) had never used the internet, compared to 40.78 million adults (82.2%) who had. 78.8% of those between the ages of 55 and 64, 57% of those between 65 and 74, and 23% of those who were 75 and older had used the internet. While 84.6% of men had accessed the internet, only 79.8% of women had.

In terms of access, according to Williams the difference between men and women varies only by 1% up to the age of 54. However, in the 55–64 age group, women's access in relation to men's decreases to a 3% difference. This trend gets stronger with increasing age, and in the 75+ age group, only slightly more than 1/6 (17.4%) of women have had access, compared to 1/3 (32.7%) of men. This means that among younger people the gender difference in terms of internet access is negligible, but among older women and men, the difference is significantly greater. Women of 75 years and over have the lowest rate of ever having accessed the internet.

Level of education, type of occupation and income are all used to measure class-based exclusion from internet access. In the UK, the difference in terms of internet use between people with different levels of formal education has increased between 2007 and 2009 (Dutton *et al*., 2009). In 2009, of those earning a gross income of £41.600 or more, 98% used the internet, while for adults with an income of less than £10,399, the figure was 69% (Office for National Statistics, 2010). Similarly, 91% of people employed in managerial or professional occupations were internet users, while 67% of people working in semi-routine and routine jobs used it (Office for National Statistics, 2010). Class shapes internet use owing to the cost of internet access and the limited financial resources of households with a lower socio-economic position (Lee, 2008), although internet use is also linked to class-related differences of access to support and preferences of use.

Similarly to the lower rates of internet access for older people in the UK, 30% of over 73 year olds use the internet in the USA (Zickuhr, 2010). In the EU, internet access in the home declines from the age of 55 on, with those older than 75 having the lowest rates for home internet access (6% on average) (Directorate General Information Society and Media, 2010). In the UK as well as globally, internet access has to be understood as shaped by social inequalities. This has been discussed as creating a digital divide between those with and those without access. Yet the conceptualisation of the digital divide has not remained undisputed, as will be shown in the following section.

3.3.2.1. Digital divide or digital inequalities

Internet access is shaped by social inequalities such as gender or age, but some approaches which conceptualise it as an empowering technology have envisaged the internet as a means of overcoming these inequalities (Servon, 2002). However, internet access is not necessarily an end point in a development at which more and more people arrive. People may use the internet but later decide to discontinue use (Wyatt *et al*., 2002), which further complicates the digital divide and the potential of internet access to overcome social inequalities.

The concept of the digital divide has been used in policy debates, especially in the USA, and originally differentiated between those with access to a computer and the internet, and those without access. Subsequently the digital divide was critiqued for its simplistic framing of “haves” and “have-nots”, relying only on the material presence of computers and connectivity for measuring its extent. DiMaggio and Hargittai (2001) distinguished between the technical means, autonomy of use, skills, social support, and the purpose of people’s internet use. Dijk (2005) argued that research on the digital divide too often relies on quantitative surveys, despite the need for qualitative studies to understand the production of inequality in diverse settings for individuals and groups. For Warschauer (2003) the concept of digital inequality permits a more nuanced description of the internet and inequality. He criticised that research which uses the digital-divide concept separates technology and social context, assuming a one-way causality in which access to the technology changes the social context. Similarly, Halford and Savage (2010) argue that research using the digital divide concept separates technology as one entity, from social process and inequalities as another.

As sociologists, Halford and Savage suggest researching digital inequalities instead of a digital divide. They propose a combination of different theoretical approaches, namely actor network theory (ANT), Bourdieu's analysis of capital and fields, and feminist research on the mutual shaping of gender and technology. Bourdieu's approach does not include an extensive analysis of technology and technical capital, and the analysis of technical skills and masculinity are not straightforwardly adaptable to digital skills. It also doesn't take feminist critiques of technical skills as gendered into account (including only skills for using selected technologies). When analysing technical skills, technical capital is defined as a subcategory of cultural capital in this approach. Halford and Savage argue that despite these shortcomings, Bourdieu's concepts of capital and field are important for studying digital inequality, because they lead to different abilities to use technologies, which can, but do not necessarily have to, be realised. Similarly, feminist technology studies include a variety of possibilities of mutual shaping between technology and gender. Through the use of ANT, technology can be viewed as shaped by “race”, class or gender. These should be seen as capacities instead of predefined entities, to highlight again how their interplay can create different outcomes.

Halford and Savage argue that these theories should be used together to achieve a more nuanced analysis than approaches from the digital divide literature offer. The utilised approaches all include possibilities for the shaping of technology in varying ways, depending on different circumstances. My study suggests the need to systematically analyse technology use among older people as shaped in the context of age-gender-technology relations instead. It focuses on the processes of the integration of technology into everyday life, studying them through qualitative methods as suggested by van Dijk (2005). Through the combination of feminist technology studies and domestication theory, processes of integration can be studied in specific situations, via the experiences of internet users. Gender, age and technology can then be analysed as intersecting in varied ways for different groups of people at different times. Examples of this are older men with extensive experience in using computers over many years, who are irritated by assumptions that older people are incompetent users of computers, or alternatively, women who have used computers for a lengthy period of time, but claim that computers are only tools for them, emphasising that they do not enjoy computer use.

3.3.3. Internet use, domestication and web 2.0

Several studies have analysed different aspects of older people's internet use, including motivation, learning experience, difficulties and perceived effects of internet use, as well as attitudes to technology. These are all elements of domestication processes, but exploration of selected aspects of the domestication of the internet cannot substitute for studies which analyse the processes of integration of the internet into everyday life. Most studies on domestication processes do not focus on older people, and studies which examine specific types of internet use among older people do not analyse domestication processes.

One approach to studying older people's lower use of ICTs compared to younger people is to examine attitudes towards technology. Mollenkopf and Kaspar (2005) did this with quantitative methods in Germany. They found four different ways of relating to technology ranging from "positive advocates" to "critical and reserved" individuals. Although women had overall less experience with technologies, gender did not impact on the four technology attitudes. However, younger older people (55–64) were over-represented among the "positive advocates" compared to those who were 65 and older. Those who expected to live longer and those who used to have a lot of contact with technology in the past owned more ICTs. Blank and Dutton (2011) found that older people's lower trust in the internet was an effect of their generally more negative attitude towards technology. Gender also had an impact on trust in the internet, which disappeared when controlled for experience with technology and general attitude towards technology. As feminist technology research has demonstrated (e.g. Faulkner, 2001), both experience with technology and attitude towards technology are gendered, owing to gender-technology relations (e.g. job segregation, masculine cultures of technology). From a sociological perspective, attitudes towards technology provide one aspect of the domestication process. They are ways of relating to technology, within the domestication process, and highlight connections with past experiences. This will be further discussed in chapter 7 in terms of the positioning of individuals in the context of age-gender-technology relations.

Some studies have investigated the motivations as well as needs of older people in learning to use computers. Research on older people's motivations needs to be compared to their experience of use. It can, however, give important indications as to why people begin to use computers and the internet, and can unpack aspects of age shaping everyday life which facilitate certain uses of the internet. Johansson

(2005) found that curiosity, the wish to “know more and be up to date”, communication with grandchildren, and possible return to the labour market, were motivations for participating in a computer course. Morris *et al*. (2007) similarly found communication with grandchildren, interest in new technologies, and the social aspects of meeting others at an IT centre, as motivations of older computer use beginners. Communication with grandchildren, which was found to be a motivation in both studies, has to be linked to the meaning of grandchildren in the lives of grandparents, and the connections between gender and grandparenting which were discussed previously in this chapter.

Selected initiatives also developed websites which are aimed at older people. Godfrey and Johnson (2009) describe a project in which a specific online portal was developed to decrease older people’s exclusion from online information, and to help foster “digital circles of support”, encouraging “mediators” to support other older people in their use of the internet. Jaeger (2005) came to the conclusion that it was not necessary to develop new training methods for older people, but that principles such as “adhering to a logic of understanding”, instead of repeating processes, should be considered. Such an approach should start with older people’s needs, it should give access to older teaching assistants, include the attendance of several older people in classes, as well as adapt the pace of computer training to older people's needs. Another important aspect of research on access and learning support is whether only the current older generation use computers less than younger people. Since many of the future older generations will already have used computers when they were younger, they might also use computers more later in their lives. While the percentage of older non-users continues to decrease, it is unlikely that access to, and use of, computers will include everyone at some point (Wyatt *et al*., 2002). Additionally, discourses which constitute older people as incapable of using new technology suggest that age-technology relations are more complex and persistent than these predictions assume.

While identities have been researched as gender identities in relation to internet use (Turkle, 1995; Robinson, 2007), age identities, and more specifically older people, have been neglected in comparison. Age is mainly researched through the identities of younger people, and their online identity constructions (e.g. Hodkinson and Lincoln, 2008; Valkenburg *et al*., 2005; García-Gómez, 2009). Young people were often among the first and frequent users, but the restriction to younger people's identities and use of technology (e.g. Werner, 2009) limits the study of age-technology relations. Research on older people's internet use most often only

partially considers aspects of identity, such as motivations and attitudes towards technology (Morris *et al*., 2007), but omits the theorisation of older people's identities within intersecting social inequalities, in particular as an element of age-gender-technology relations.

As with the use of other technologies, some people might avoid or choose to discontinue computer and internet use (see Wyatt *et al*., 2002; Hakkarainen, 2012). This might occur after domestication and considerable use (Lehtonen, 2003) as discussed in chapter 2. Hakkarainen analysed symbolic representations of the computer among older non-users, who described computers as risky and as threatening freedom, lifestyle, health and security. Hakkarainen argued that "some elderly people's distinct identities, interests, history, and culture" (p. 1213) might contribute to their decisions not to use computers. Peacock and Kuenemund (2007) suggest that the internet might be substituted by another "new" technology, which will be less used by older people in the future. Similarly Sourbati (2008) argued that the expectation that other cohorts will use the internet more could be misleading, and that older people's lived experiences have to be studied further to better understand the interaction between age and internet use.

Richardson *et al*. (2005) differentiated between person-centred, individual-centred and learning-environment barriers for older people's computer use. They found that women and men differed in person-centred barriers, with women talking more about their fears of computer technology, while men emphasised anxiety and frustration with it. This leads to the question of gendered perceptions of competence, as well as more general gender-technology relations, which will be discussed in the following chapter. Negative discourses surrounding older age and computer use were another person-centred barrier, as well as declining health (Richardson *et al*. 2005). The barriers related to individual circumstances were the cost, and relevance of the computer and the internet to participants' lives. Learning-environment barriers included lack of help, age-unfriendly tuition, and for women also computer jargon. Finding teaching strategies to improve how older people use computers can be important for reducing their exclusion from internet use.

Research on older people's computer and internet use also discovered perceived negative consequences (Richardson *et al*., 2005) of computer use linked to time use (wasting time, health problems related to sitting in front of a computer for a long time), and a sense of helplessness and vulnerability. On the other hand, computer use was also seen as contributing to well-being as it created opportunities for

engagement with others (Barnett and Adkins, 2004). Further benefits from the point of view of older users were connectedness and mental stimulation (Richardson *et al*., 2005).

As discussed in chapter 1, age has been largely omitted in domestication studies and is rarely analysed. (e.g. Bakardjieva, 2005; Lally, 2002; see for exceptions Buse, 2009a; Haddon and Silverstone, 1996). In their ethnographic study on internet use in Trinidad, Miller and Slater (2000) make only passing reference to older people's computer use. Some studies also investigate older people's computer use with a focus on one particular activity. While Kanayama (2003) studied older people's communication styles on an email list, Xie and Paul (2008) examined their participation in political discussions in online forums, and McMillan *et al*. (2008) analysed older people's experiences of using the internet in the area of health. These studies can give insights into the pursuit of different activities through the internet, but they do not connect them further to the contexts of internet use, older people's everyday lives, and the social construction of age, all of which are relevant for understanding these activities in terms of encounters between age and technology. Research on web 2.0 which focuses on older internet users from a domestication perspective has yet to be undertaken.

Neven (2010) demonstrated how the social construction of age and older people shaped the development of a robot for older people. Older test users positioned themselves as younger or not as lonely or needy as those who would use the robot. This highlighted the significance of social constructions of ageing for the processes of designing and testing technology. Loe (2010) analysed the use of various technologies by older women in their nineties. She found that contrary to the social construction of age which portrays older people as non-users of technology,[18] older women were using a wide array of technology. The study participants demonstrated a wide variety of experiences with technologies. Older women's active adoption sometimes transformed these into health and ageing technologies, resulting in continuity and control. These studies focus on the social construction of age, which can be integrated into a theoretical perspective of technology as mutually shaping with age as social inequality (McMullin, 2004a).

[18]In their study of the experiences of teenagers in a creative media workshop, Thornham and McFarlane (2011b) developed a critique of the characterisation of younger people as "digital natives", which associates younger age per se with competence in the use of digital technology.

As I argue in chapter 6, the analysis of gender and age in older people's internet use demonstrates the need to examine the social construction of age in internet use. Similar to gender-technology relations, age-technology relations can be studied as effective in terms of structure, symbolism and identity, and as mutually shaping with technology. Thus, age and gender can be analysed as intersecting social inequalities (McMullin, 2004a) in older people's internet use experiences.

3.4. Conclusion

Researching technology use in everyday life makes it possible to explore the diverse experiences of older people in encounters with technology. Through the use of a qualitative methodology the diverse meanings of computers and the internet as they are negotiated by older people within specific contexts can be analysed. Through a sociological analysis, it is possible to examine the social shaping of computers and the internet. As I have argued in this chapter, studies on older people's technology use have often focused on their difficulties. Contrary to gender-technology relations, age-technology relations have been less theorised, and links between age, gender and technology are rarely made. Researching the internet as domesticated technology enables us to access technology as a social phenomenon in older people's lives. Gender as well as age relations are important elements for understanding use and non-use among older women and men. Exploring the internet and web 2.0 as domesticated technologies makes it possible to study technology in relation to its social context, and to specifically understand lived experience. The following chapter will focus on gender-technology relations so as to integrate the suggested analysis of age and technology with the study of gender and technology as mutually shaping.

Chapter 4: Analysing gender-technology relations in internet and web 2.0 use

The previous chapter discussed age and technology relations through research on older people's internet use. While age-technology relations have hardly been theorised (Oestlund, 2004), **gender-technology relations** have been studied more intensively. Gender inequality, such as different gender role expectations, shapes older women's and men's everyday lives. An example of this are older couples where women do more housework than men (Niemi, 2009). This division of housework can create a situation in which older women have less time to use the internet for leisure than men. This chapter discusses research on gender and technology, and more specifically feminist technology research, to show how an understanding of older people's computer and internet use needs to focus not only on age-technology relations, but also gender-technology relations.

In the first part of the chapter, I will discuss research on gender-technology relations within **feminist theory**. This includes situating research on technology within feminist research, and linking the study of technology to key questions in such scholarship. I argue for combining the analysis of **mutual shaping processes** developed in feminist technology studies, with **intersectionality** and domestication theory. The integration of intersectionality theory allows the inclusion of other social inequalities, such as age, in the examination of gender-technology relations. The chapter then reviews existing research on gender in relation to **computer, internet and web 2.0 use**. Domestication studies offer the possibility to understand the importance of users, as well as the social character of technology shaped by domestication processes in everyday life. However, domestication theory benefits from being combined with feminist technology studies, as this ensures the inclusion of the different dimensions of gender in analyses. While the mutual shaping of gender and technology is a concept that offers a starting point for understanding the way in which gender and technology are intertwined, it is necessary to specify these processes in analyses of different technologies. Moreover, the chapter also contests the thesis that gender-technology shaping processes will disappear as a consequence of the wider diffusion of internet technology, an argument further developed in later chapters.

4.1. Feminist theory and the study of gender and technology

Feminist research analyses gender inequality and informs political strategies to tackle discrimination against women. Covering many different sociological fields, feminist sociology has also developed theories of gender relations[19] through the study of patriarchy (e.g. Walby, 1990; 1997). It has also contributed to many research areas, such as education, health, and work (Delamont, 2003). Through feminist research perspectives, new topics have been established, particularly in the sociology of families and households. Delamont names housework, caring, money, domestic violence, food, drink and cooking, childbirth, emotional work, leisure and control of time as areas in which feminist sociology has developed new research areas besides its contribution to other established sociological fields. Technology is potentially part of all these areas. However, it has not often been the focus of such studies.

4.1.1. Gender-technology relations as an aspect of everyday life

Gender-technology relations have been studied more intensely following the feminist critique of science and technology (Wajcman, 1991). Situated within Science and Technology Studies (STS) and feminist sociology, feminist technology studies developed. As discussed above, feminist sociology has also evolved through the examination of different areas of everyday life, such as leisure, housework and caring. These analyses also advanced the exploration of what was seen as "private" and therefore omitted in previous social research. In many cases the study of everyday life was not just a shift to another area of investigation, next to work or leisure, but implied a concern for understanding the experience of mundane

[19] Gender was originally introduced as a term in psychological research in the 1960s and taken up by feminist researchers in the 1970s (Bradley, 2007). It describes a social distinction between women and men. This was described in the 1940s by Simone de Beauvoir as "(o)ne is not born, but rather becomes, a woman" (Beauvoir, 1997, p. 295) and was further developed in gender theory which analysed the social construction of women and men from the 1970s on. Gender is since then often referred to as "the social" aspect of being a woman or a man, which appears to be more arbitrary than sex, the biological distinction between women and men arising from anatomical differences. However, alongside the theorisation of gender, this view of biological sex as a "natural" distinction between women and men has also been challenged (e.g. Stanley, 2002; Hawkesworth, 1997; Oakley, 1972).

and/or routinised aspects of everyday life from a phenomenological perspective. Feminist theorists demonstrated that owing to its neglect of gender, previous research had not only been limited in its understanding of society, but also systematically disregarded the experiences of women (Wearing, 1998). As I have argued throughout this study, the internet has to be understood as an ICT used in the context of age-gender-technology relations, and its analysis has also to include the exploration of technology as an aspect of everyday life.

This examination of ICTs can build on the analysis of technology in the tradition of domestication theory, which will be further discussed later in this and the following chapters. During the last 20 years, more digital technologies (computers, internet, mp3 players, mobile phones) have become more widely used both in work and leisure settings in and outside the home. These types of technology have thus become a significant part of many people's everyday lives, some progressing from work to private use, others being used independently of employment. Use of a technology in a work context, or in association with work, can also inform its use in other contexts. For the study of older people's use of the internet and web 2.0, this means that these technologies can be related to very different past experiences when they are used in retirement. The use of computers as part of employment, as well as access to them independently of work in the past, are important elements for understanding experiences of computer and internet use among older people. These previous experiences of computer use are shaped by gender-technology relations themselves, for instance in the gendered segregation of the labour market, and the association of masculinity with leisure DIY technology use.

Older people's narratives of use often include experiences of learning to use these technologies. Simultaneously, older people are often described as atypical users of new, digital technology. This emphasis that many older people place on experiences of learning to use computers has to be linked to older people also being considered atypical users and to the difficulties they encounter when learning (e.g. lack of computer courses aimed at older learners). Gender not only shapes older women's and men's everyday lives, but, as I explain in more detail in this chapter, it specifically shapes their use of, and experiences with, technology. Feminist technology studies have demonstrated gender and technology as mutually shaping[20] (Faulkner, 2001). Based on Harding's (1986) examination of gender and

[20] The analysis of gender and technology as mutually shaping means that both elements of this relationship influence each other. Technology is therefore not only shaped by gender (e.g. through

science, gender-technology relations have been analysed through gender structures, gender identities and symbolic associations between gender and technology in feminist technology studies.

This understanding of gender as structure, identity and symbolic association is important for the analysis of gender and digital technologies in everyday life. As I argue in this study, many approaches for understanding gender in ICT use are limited owing to their narrow conceptualisation of gender. Approaches which underestimate the complexity of gender-technology relations consequently fail to identify the relevance of gender for understanding ICT use (e.g. Habib and Cornford, 2002). Other studies argue for the relevance of gender, but are limited because they neglect to theorise ICTs as technology in everyday life, which is crucial for an analysis of technology as social and an exploration of mutual shaping processes between social inequalities and technology. It is important to understand technology as a social phenomenon in order to examine the complexity of gender-technology relations in terms of ICT use. The next section explores an approach which does not analyse technology as social process, in contrast to feminist technology studies which examine mutual shaping processes of gender and technology.

4.1.2. "Doing" and performing gender with technology

Ethnomethodological studies have analysed gender as perpetuated in interactions through sex attribution. While gender inequality can be identified on a macro and meso-level, it is also "done" on the micro level in interactions. We act in manifold ways in every interaction to "pass" as male or female, and our performance is "read" as a performance of gender (West and Zimmerman, 1987). Technology can be part of these situations and performances. "Doing gender", apart from allocation to a sex category as woman or man, also perpetuates ideas of what is female and what is male. To do gender, we have to perform it, and on most occasions without saying "I am a woman" or "a man". In this sense, gender identity is translated into manifold actions, which implicitly perpetuate gender, without consciousness of the way in which this is done. For the study of technology, this means that the performance of

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design of a technology for a gendered user), but more than that intertwined with gender relations. Gender has to be understood as being intertwined with development, interpretations, and uses of technology. Gender and technology are therefore studied as process (Berg, 1994).

gender can also be ethnomethodologically analysed in specific situations in which technology is used. However, exploring gender only through the ethnomethodological analysis of interactions involving technology use, reduces it to performance.

Butler (1990) described drag as a practice to subvert gender stereotypes, and to draw attention to the constructed character of gender. She argues that drag builds on highlighting differences between anatomical gender, gender identity and gender performance. These are usually united through the "regulatory fiction of heterosexual coherence" (Butler, 1990, p. 187). In drag performances, sex, gender identity and gender performance are revealed as distinct. Although drag is criticised for its portrayal of women (which does not allow digression from a stereotypical woman), Butler emphasises that it shows that the unity of these three aspects of gender is a heterosexual fiction. Drag performance involves the difference between sex and gender performance, and it then also implies difference between both gender identity and gender performance, and gender identity and sex. This aspect of drag gives it the potential to subvert gender stereotypes. Butler's approach is more often used in analyses of gender and internet use than West and Zimmerman's concept of "doing gender". However, both, the concentration on "doing" gender and on performances of gender lead to similar shortcomings, as only selected aspects of gender are studied.

Analyses which deploy Butler's concept of performing gender look for transgressions of traditional gender performances in online content in order to evaluate the potential of overcoming a traditional, heterosexual binary gender system through technology use. Butler's approach has been criticized (Jackson, 1999) for omitting the way in which heterosexuality and capitalism are linked, and how gender is performed in specific locations in everyday life. For Jackson, Butler only develops ideas for "doing gender" differently, not for abandoning it. Instead of seeing some type of masculinity, femininity, and same or other gender desire as insuperable, Jackson argues that feminist theory should work towards abandoning gender. As women and men are the result of "a social, hierarchical relation, in the absence of that relation very different subjectivities, desires and identities might emerge – and these would have nothing to do with gender since gender would no longer exist (paragraph 6.11). Feminist technology studies can analyse these everyday gender performances in specific locations without isolating gender performance and neglecting e.g. structural gender inequality. However, as will be shown in the third part of this chapter, most research on internet use (and especially

web 2.0 use) and gender, focuses on online content and possible transgressions of traditional gender performances, instead of analysing internet and web 2.0 use in everyday life.

4.1.3. Multidisciplinary feminist theory and the development of research perspectives for analysing technology

Feminist research has also challenged the suitability of established methodological approaches for studying and fighting against women's oppression. The critique of traditional approaches engaged not only with specific research methods, but led to the development of feminist standpoint theory and subsequent debates around researching social inequality. Feminist theory is further informed by its multidisciplinary character, which also impacts on the perspectives taken regarding technology. More specifically, it can be argued that the popularity of cultural theory within feminist theory has been consequential for the understanding of technology, leading to the already indicated shortcomings of understanding technology as social.

In the 1970s, feminists highlighted the neglect of women's perspectives in research, and emphasised the need to give their experiences a voice (Maynard, 1994). Early secondwave feminist research challenged quantitative surveys because of the implied distance between researcher and participant, which was seen as masculinist. The feminist criticism of quantitative methods also further developed the arguments of phenomenological sociologists, who found that quantitative studies produced misleading data, neglecting the complexities of how participants structure their everyday worlds. Subsequently, these criticisms led to the development of feminist standpoint theory, which was based on the assumption that researching women's lives from a feminist perspective created less distorted data. However, this approach has been criticised because of the implication of "one" feminist standpoint (Is it the standpoint of an individual, a group, a feminist or a woman?), and the assumptions of equally valid standpoints. The standpoint could at the same time be heterosexist, excluding lesbian women (Maynard, 1994). By the 1990s the focus on privileging women's experiences was critiqued as being determinist and essentialist, overestimating the critical awareness women gain through being oppressed (Kelly *et al*., 1994). The feminist standpoint perspective was further seen as failing to take women's diversity into account. This meant that, for example, black or lesbian feminist standpoints were being obscured by the

prevalence of one single, white, heterosexual feminist standpoint (Maynard, 1994). In the 1990s, feminists called for research which would concentrate on studying women's oppression, through any type of data-collection method, going beyond the focus on women's perspectives (Kelly *et al*., 1994). Maynard (1995) called for "middle-range-theory" to grasp and link the different levels of women's oppression. Middle-range-theory can "emphasise the specifics of given social contexts, institutions and relationships, offering grounded generalisations rather than universalistic, totalising models of entire societies and (is) more easily integrated with empirical research" (Jackson, 1998, p. 27). Maynard (1995) highlighted that much existing feminist research deployed a middle-range-theory approach, with an orientation towards specific empirical problems. While feminist theory has expanded slowly (Delamont, 2003) in terms of its academic visibility,[21] some authors argue that feminist political activity has decreased in terms of large-scale campaigns in Western countries (Maynard, 1995). More recently Dean (2010) challenged this view of declining political struggle. He criticised narratives of decline of feminist political activity for portraying the 1970s as the only feminist decade. According to Dean this view underestimates political activity before and after, and overestimates the unity of the feminist movement in the UK in the 1970s. He suggested that accounts which highlight the de-radicalisation of the feminist movement are often more aligned with individual biographical experiences and reduced involvement of their authors, than with contemporary feminist practices.

In the 1990s, feminists also called for more attention towards agency in feminist theory (Roseneil, 1995). This shift towards agency was later described as an abandonment of the production of the social through structures (e.g. state, labour market, family) in sociological analyses, in favour of research on the social in terms of the individual. Adkins (1998) argued that this led to an emphasis on agents and agency and their importance for constructing and organising "the social", in contrast to previous sociological analyses which were perceived as overestimating the importance of structures and neglecting the significance of agency.

Jackson (1999) argued that at the same time sociology has been marginalised within feminist theory. Sociological theorising on agency (as it had been developed within ethnomethodology, phenomenology and interpretative sociology) has been

[21]Roseneil (1995) argued that feminist theory has matured over 20 years and established itself within academia. Nevertheless it did not transform sociology as a whole. She called for more integration of feminist theory into mainstream sociology instead of "separate spheres" for it.

overlooked in preference to cultural theory, which rediscovered agency. Early on, Barrett (1992) described the growing popularity of cultural theory in feminist research as a move from “things to words”. Yet, as Jackson (1999) demonstrates, the turn to cultural theory meant a loss in terms of analysing the social, and intersections between social and economic relations of society. As a result of this development, and the shift to Foucauldian analyses of power, the analysis of power as domination and the study of systematic, structural inequalities were marginalised. But while approaches which highlighted structural oppression lost the influence they had previously had, structural analyses did not completely disappear, with some researchers “retreating from the extreme anti-materialist implications of postmodernism”, to engage in the study of ongoing structural inequalities (Jackson, 1998, p. 25). The neglect of sociological studies was traced back to the perception that cultural theory seemed to connect with Marxism more easily through Althusser’s concept of ideology as relatively autonomous from economic relations. This enabled a theorisation of women’s oppression as ideological and cultural, without a theorisation of capitalism (Jackson, 2001). Following Jackson, “[c]ultural approaches (Butler’s and others) ignore not only the social structural underpinnings of gender, which help explain *why* it exists in its current form, but also the everyday social practices that reveal *how* gender and heterosexuality are continually constructed and reconstructed in routine social interaction” (*ibid*., p. 291).

Whilst feminist approaches that focus on the social have been marginalised through the popularity of cultural theory, feminism has often theorised technology from perspectives that were closer to the humanities than social sciences (e.g. Haraway, 1991; Plant, 1997b). Additionally, technology was also researched within STS by feminists. In her review of feminist research on technology, Wyatt (2008) found that much feminist and social theory neglected the study of technology. She argued that individual experiences with technology need to be researched more within the context of material and structural inequalities. However, different research perspectives which engaged specifically with the use of ICTs developed within sociology and feminist theory. The next section will discuss these approaches to ICTs, domestication theory and cyberfeminism, as well as the analysis of gender in human computer interaction (HCI).

4.1.4. Specific perspectives: domestication theory, cyberfeminism and HCI

From the 1990s on, information and communication technologies have also been researched through the lens of domestication theory. This approach, which focused on the way in which these technologies were appropriated by its users and integrated in "moral economies of households" (Silverstone *et al*., 1992) was developed from research which examined media technologies either through actor network theory or cultural studies (Silverstone, 2005). According to Silverstone, "[i]n both, by and large, the focus was on the creation of technology, its invention, mobilization and distribution: in other words, its appearance, but not its consequence" (*ibid*., p. 231). Domestication theory aims to abandon diffusionism (which conceptualises the diffusion of technologies as a rational innovation-decision process), which dominated much research on technology, as well as the fixation on text, which was dominant in much British media and communication research. Instead, it turned attention towards the social context of technologies (Berker *et al*., 2005). Earlier research from a cultural studies background had also investigated the use of ICTs with an emphasis on gender. Gray (1992), for example, researched women's use of the video cassette recorder and their viewing preferences in the context of the structure of households and the domestic division of labour. In domestication theory, gender is an aspect of the adoption process of technology, and can shape how, where and when technology is used. Despite this, as feminist technology studies would argue, gender-technology relations are not understood as central to understanding technology, and the analysis of technology use is not based on an understanding of gender as social inequality. Without an integration of both into domestication theory, the relevance of gender for technology use is underestimated. However, a combination of domestication theory with an understanding of gender-technology relations which is rooted in feminist technology studies can overcome this weakness. I will now turn to an existing example of an integration of both approaches, which also serves to discuss cyberfeminism as a feminist theory approach that engages specifically with ICTs.

Cyberfeminists like Plant (1997b) identify gender-technology relations, but they posit a particular relationship between gender and the internet which selectively emphasises the role of the internet in transforming gender relations. In this sense, cyberfeminism has similarities with research on the digital divide, which takes only selected aspects of gender-technology relations into account. Compared to feminist technology studies' analysis of mutual shaping processes, technology and gender inequality are understood as less intertwined. Holding on to the positive association

between women and internet technology leads cyberfeminism to take a techno-determinist (and gender essentialist) position in which a relatively new technology changes gender relations. In contrast to this, Haraway (1991) is much more nuanced in highlighting the need for women to understand human-technology relations differently, and thus avoids the cyberfeminist techno-determinist positioning. Orgad (2005) combined the feminist technology research tradition with domestication studies in her analysis of breast cancer forums. She analysed them as an example of the way the internet could be a potentially empowering technology for women. Orgad argued that these forums provided a space for some women to share their experiences, a space they didn't find anywhere else. However, she did not see any evidence of breast cancer forums as being especially feminine in the sense that they relied mainly on women's practices and styles of communication. Orgad found that the internet could be incorporated in practices where women hide their illness offline, employ discourses that put the responsibility for illness on themselves, and where their concerns remain in the forum and obscured from the general public. This demonstrates that the existence of a technology such as the online forum does not necessarily facilitate feminist politics and lead to the transformation of women's everyday lives, as cyberfeminist approaches (e.g. Plant, 1997b) would envisage. As Orgad demonstrated, the link between the use of technology and feminist transformations of society is less evident than is suggested in cyberfeminist approaches because they neglect mutual shaping processes of gender-technology relations. In contrast to this, feminist technology studies can more fully explore the complexity of gender-technology relations.

It can be argued that research on gender-technology relations in the tradition of HCI is problematic owing to its focus on design processes, which often results in the overestimation of the decisiveness of design for use. It is domestication theory in particular, with its insights into the relevance of processes of adoption and the crucial role of users, that can serve to counterbalance this emphasis on design. Where these are not taken into account, HCI suggests a possible transformation of gender-technology relations through design. Examples for this are the design of technology which encourages "technical femininity" (Rode, 2011), or does not refer to gender (House, 2011) with the expectations of re-coding or de-gendering technology respectively. While Rode recognises the problem of gendered processes of the redefinition of technology (e.g. de-skilling of women's work; see Henwood, 1993), she proposed to design "technical femininity" to change gender-technology relations, assuming that the incorporation of this new technology within traditional

gender-technology relations could be dealt with separately. However, if we take mutual shaping processes in gender-technology relations seriously, it is unlikely that an intervention only in terms of “new technology design” can effect sustainable change in gender-technology relations. Similarly to Rode, House (2011) underestimates the obduracy of gender-technology relations, suggesting that the removal of references to gender in design (e.g. male and female tickboxes on social networking sites) could transform them. Moreover, her analysis is also based on an understanding of users as always insisting on traditional gender-technology relations, which is unlikely to be as consistent as suggested. Besides the focus on design processes, HCI tends to neglect the analysis of gender-technology relations more fundamentally. Brahnam *et al*. (2011) provided a postmodern and techno-determinist account of “computer is woman” as a metaphor within HCI. Their analysis does not take gender inequality as a context for computer use into account, proposing that after having tackled it in “real life” offline in the past, it can be analysed in its online occurrences in the future. Burnett *et al*. (2011) similarly did not engage with research on gender-technology relations and base their proposed changes in design on unquestioned differences between women's and men's sex roles instead of an analysis of gender-technology relations in computer use. Dimond *et al*.'s (2011) study of ICT use among women who have survived domestic violence serves as a counter-example to the previously discussed studies, for despite an emphasis on designing technology differently, they demonstrate that HCI research can also take gender-technology relations into account. The authors succeed in including users as critical for technology use, revealing how the vulnerabilities of domestic-violence survivors have been neglected in ICT design, and highlighting the ways SNSs are not only dangerous for them (as they can be stalked and contacted by abusers) but also provide support (through staying in contact with close relations). This study showed the complexities of gender-technology relations in situations of technology use, although it still concentrates on necessary changes in design.

4.2. The mutual shaping of gender and technology

The study of mutual shaping processes of gender and technology proposes a critique of those research traditions that characterise technology as essentially male or female. Analyses of gender-technology relations from a feminist technology perspective regarding, for example, mechanical engineering (Faulkner, 2001) can

be integrated into the study of the domestication of ICTs in older people's everyday lives. This also highlights similarities and differences of gender-technology relations across different types of technology. We can, for example, find gender as structure, identity and symbolic association within gender-technology relations in both engineering and ICT use. Yet, engineering is characterised by women's very limited access, while the differences in access to everyday ICTs are less pronounced. Moreover, as will be discussed further in chapter 7, owing to ICTs being communication technologies, they also differ from engineering technology in terms of their symbolic gender associations.

Some ecofeminist approaches reject science and technology as male (Mies and Shiva, 1997). As a political movement and as a critique of science and technology, these approaches emphasise the destruction of traditional forms of knowledge, and the damage created through the use of, for example, nuclear power. Women, especially those in non-industrialised countries, are seen not only as victims of science and technology, but also as closer to nature. Technology is then conceptualised as a force which is essentially male and destructive to women's lives and women's unity with nature.[22] Despite consciousness of the male bias of science and technology, cyberfeminism (Plant, 1997a) views virtual reality as essentially female. Men, who previously controlled through technology, are seen as powerless in the realm of virtual reality. As a cybernetic, self-regulatory system, virtual reality cannot be dominated by men. The World Wide Web is seen as a network, with non-hierarchical structures (e.g. hyperlinks) that privilege women's organisational practices. These technologies are seen in a linear progression from previous technologies used predominantly by women, for example, looms, changing from the weaving of textiles to the linking of information. Cyberspace is conceptualised as a

[22]The analysis of science and technology as male dominated does not necessarily lead to the rejection of science and technology. Instead of dismissing them, other authors emphasised that it is possible to imagine a future feminist science. Harding (1991) studied the androcentric character of technology and science, but without hereinafter rejecting them. Science and technology should not be abandoned by feminism, as "scientific rationality can make possible the transformation of its own agendas" (p. 4). Oakley (1998) warns against postmodernist approaches which instead of analysing the specific ways in which science is gendered, reject empiricism and its potential for changing women's lives altogether. "If we took the admonitions of postmodern anti-quantitative theorists seriously, we would abandon altogether the interest a practical feminism must have in establishing how people's material resources, life changes, and experiences are affected by their gender" (p. 143).

distinctly female technology, empowering women. By contrast, approaches that consider the mutual shaping of gender and technology aim to draw a more nuanced picture, in which technology is neither male nor female.

From this perspective, it is necessary to avoid socio-determinist or technology-determinist positions which portray gender or technology in reductive ways. Feminist technology studies demonstrated that the definition of what is technological is itself an ideological question, defining what women do as less skilled or "un-technological". They also examined male "cultures of technology", which associate men with technology (Henwood, 1993). The domestication approach to information and communication technology developed in contrast to actor network theory and cultural studies. Feminist research on masculine cultures of technology, which has similarly developed against the backdrop of actor network theory, formulates a critique of essentialist approaches to technology and gender and engages with social constructivism (Gill and Grint, 1995). I argue that the understanding of mutual shaping processes of gender and technology developed in feminist technology studies has to be integrated in the analysis of the domestication of digital technologies in the home.

Faulkner (2001) describes the gendering of technology using the example of engineering where "the continued male dominance ... is due in large measure to the enduring symbolic association of masculinity and technology by which cultural images and representation of technology converge with prevailing images of masculinity and power" (p. 79). Technology may also be gendered as male because men are in positions to take decisions on the development of technologies. Technological competence, furthermore, is more frequently ascribed to men than women. Additionally, it is gendered by symbolic associations between masculinity and technology. Technology is also intertwined with gender because of a gendered division of labour that results in the use of different technologies by women and men, such as the extreme gender segregation in the realm of industrial technology. Despite these different examples of gender shaping technology, Faulkner emphasised that technologies are gendered to varying degrees and thus open to reinterpretation (e.g. telephones were appropriated by women). "While some artifacts do manifest the interests of (some) men in a material way, most are gendered by association, symbolically rather than materially, and many are not obviously gendered at all" (*ibid*., p. 84). Symbolically, masculinity and technology are, for example, linked through different dichotomies, such as people–machine, hard–soft, or abstract–concrete. These dichotomies are part of the association of

technology with masculinity. But in reality, the stereotypes constructed through such dichotomies are often contradicted, through the interaction of women with others and with different technologies. However, the definition of technology which is seen as “hard” excludes “everyday” technologies used by women. Also, engineers' pleasures in, and their close identification with, technology, as well as their pride in technical competence, are part of their gendered identities and a male culture of engineering, which exclude women (Faulkner, 2001). In this present study, Faulkner's analysis of gender-technology relations in engineering is adapted for the study of older people's computer and internet use. As will be discussed further in chapter 7, access to computers is not only shaped by gender, but technology is often associated with masculinity, even if it is contrary to experience (see also Thornham and McFarlane, 2011a). Different uses, moreover, are perceived as differently gendered with the effect of separating women from “serious” technology use. Another element of the mutual shaping process is that technology is also part of gender identities (see Harding, 1986; Sundin, 1997; Risman, 2004 for gender identity as a core part of personal identity).

Another aspect of particular relevance for a feminist analysis of gender-technology relations is the question of change. Feminist technology studies, in particular, elaborated a critique of the focus on widening access to technology in liberal feminist approaches. They suggest that while women should be given access to engineering work or other technologies, this is insufficient to transform gender-technology or gender relations. Technology has to be democratised “from outside”, while at the same time women should be encouraged to participate in technology “from the inside” (Faulkner, 2001). Similarly, Henwood (1993) emphasised the cultural associations between masculinity and technology and developed a critique of the liberal-feminist emphasis on changing gender-technology relations by encouraging women to enter professions that are defined as technological work. This limited approach, which requires women to change their behaviour, and demands they be treated equally to men, underestimates the extent to which technology is gendered. Because of the manner in which technological work is defined, which excludes technological work performed by women, “rather than arguing for women’s inclusion in work currently defined as skilled and as technical, we should be arguing for a total re-evaluation of work so that many of women’s traditional tasks are also recognized as skilled and technical and are given the appropriate remuneration” (Henwood, 1993, p. 40). Similar to this, the analysis of older people's computer and internet use suggests that widening participation alone is unlikely to change age-technology and

gender-technology relations. Although computers are part of many people's households, the processes of domestication, and the practices of using computers in homes, demonstrate the obduracy of gender-technology relations and their continued relevance for understanding computer and internet use.

4.2.1. The inclusion of atypical experiences in the study of gender-technology relations

The mutual shaping approach has been criticised for its focus on women's experiences, as well as for its neglect of analysing heteronormativity in its examination of gender-technology relations. Lohan (2000) suggested shifting the emphasis in studying gender-technology relations to the deconstruction of male gender identities. I argue that in examining gender-technology relations, feminist technology studies should not only analyse women's experiences, but that the proposed limitation to men's gender identities would curtail the potential of the approach for understanding gender and technology. Harding's conceptualisation of gender as structure, symbolic association and identity can reflect the complexity of gender better than the equation of gender only with gender identity. Technology is problematic because of both the manner in which some men relate to technology, and the more general symbolic associations between masculinity and technology. While these are aspects of gender-technology relations, they are also importantly connected to gender inequality. Therefore, the deconstruction and redefinition of symbolic associations between masculinity and technology is limited in terms of explaining gender-technology relations. It can only analyse one aspect of the complexity of technology as a social phenomenon in specific situations of use in everyday life.

We will return to this theoretical problem again in the last section which discusses research on gender and internet use. Lohan's critique of feminist technology studies concedes that a focus on gender as a category of investigation is acceptable, but claims that any presumed stereotypical shape and form of gender, gender dichotomy or hierarchy has to be avoided as it would pre-empt analyses. Feminist technology studies, however, demonstrate that the multiple dimensions of gender demand an analysis of gender-technology relations that is necessarily connected to the analysis of gender inequality. Attention to the different dimensions of gender simultaneously also ensures that the social character of technology can be taken into account. While I do not follow Lohan’s suggestion to concentrate on the deconstruction of male

gender identities, I think that her critique should be understood as part of a broader phenomenon of the interrogation of feminist technology studies' portrayal of gender-technology relations. It can be argued that the uptake of intersectionality theory (Kennedy, 2005), as well as autobiographical explorations (Henwood *et al*., 2001) of gender-technology relations, are alternatives to Lohan's suggestion which tackle a similar problem. This problem is the inclusion of atypical experiences with technology, of men's difficult and women's positive experiences in the study of gender-technology relations. While these experiences are not excluded from the analysis in feminist technology studies, they can seem difficult to integrate. In order to include atypical experiences, in my own analyses I suggest the combination of feminist technology studies with intersectionality, and additionally the investigation of the positioning of individuals in terms of traditional age-gender-technology relations as an aspect of their gender and age identities.

Before discussing this in more detail in the following section, I review Landstroem's (2007) critique of heteronormativity in feminist technology studies, which is to a certain extent similar to Lohan's critique. Landstroem found that feminist technology studies do not address gender and technology symmetrically, which she claims is necessary for examining mutual shaping processes. The analysis of feminist technology studies is based on the assumption of stable gender identities, while queer theory emphasises instability. For Landstroem, this also leads to a heteronormative bias within the mutual shaping approach. She interprets atypical experiences, such as technologically competent lesbian women, as defying the analysis of gender-technology relations in the mutual shaping approach. According to her, this approach is inadequate in linking female bodies to femininity, masculine bodies to masculinity, and assuming that masculinity and femininity are mutually exclusive. Focusing on atypical experiences, such as those of technologically experienced lesbian women, would destabilise these assumptions. Similarly to Lohan, Landstroem finds experiences that are marginalised within the analysis of gender-technology relations, and claims that feminist technology studies hold on to heterosexual gender stereotypes which do not correspond to the reality of women's and men's experiences. She only focuses on gender identity, and sees these experiences as radically different, instead of contextualising them into a wider frame of gender-technology relations. In this sense, the problem is not only the inclusion of atypical experiences, but the combination of different levels of analysis (different aspects of gender-technology relations such as identity, structure, symbolic associations).

While atypical experiences have to be integrated into an analysis of gender-technology relations, feminist technology studies' broader analysis of the complexity of gender enables us to see how traditional gender-technology relations are also relevant as a context for understanding atypical experiences. By explicitly studying the ways in which individuals are positioning themselves in terms of traditional gender-technology relations as part of their gender identities, I argue that these atypical experiences can be better integrated into feminist technology studies. As age-technology relations have already been discussed as shaping internet use in the previous chapter, I will now demonstrate how the integration of different social inequalities can be accounted for in the study of mutual shaping processes of gender and technology. More specifically, I will discuss the combination of intersectionality theory with feminist technology studies to include more social inequalities in the study of ICT use.

4.3. Intersectionality: analysing several social inequalities together

Analyses of differences in women's experiences highlight how "race" and class have diverse impacts on women's oppression. This has been specifically addressed in the intersectionality approach. The critique of studies that postulated a "triple oppression", e.g. a black working-class woman (she would be oppressed because she is black, because she is working-class, and because she is a woman), stated that these are different types of oppression that can't simply be appended to each other. Yet, the intersectionality approach emphasises the importance of taking different types of oppression into account to avoid the marginalisation of those who suffer from several types of oppression (Yuval-Davis, 2006). Intersectionality aims to investigate interactions between gender, "race" and class as more than the accumulation of different types of oppression. "Social divisions also exist in the ways people experience subjectively their daily lives in terms of inclusion and exclusion, discrimination and disadvantage, specific aspirations and specific identities. Importantly, this includes not only what they think about themselves and their communities, but also their attitudes and prejudices towards others. Finally, they also exist at the level of representation, being expressed in symbols, texts, and ideologies, including those to do with legislation" (Yuval-Davies, 2006, p. 198).

According to Davis (2008), the theory of intersectionality is a result of the encounter of feminist theory, which analyses the intertwining of gender, "race" and class as

triple jeopardy, with poststructuralist theorists who focus on the deconstruction of categories. Researchers working within the intersectionality paradigm define it differently; some deploy intersectionality as theory, some as a heuristic device or as a reading strategy for analysing data. How gender, "race" and class are to be conceptualised is described as a crossroad, as axes of difference, or as a dynamic process. Staunaes (2003) described the connection between the different categories as the following: "In principle, there is no predetermined, or pre-hierarchical pattern between the categories. It is not gender first, then ethnicity, or the reverse: first, ethnicity, then gender. In lived experiences there may be a hierarchy in which certain categories overrule, capture, differentiate and transgress others. It is very difficult to juggle with various categories at the same time. The theoretical demand is to read categories simultaneously" (p. 105). Critique from within the field of intersectionality theory was also developed by McCall (2005), who argued that intersectionality studies should focus on measuring the impact of different inequalities in large-scale surveys, comparing, for example, women and men with different ethnic and educational backgrounds. McCall's approach, termed the "intracategorical approach to complexity in intersectionality", differs from what she calls "anticategorical studies" (focusing on deconstructing the different categories, challenging the completeness of the described groups) and "intercategorical studies" (focusing on less-researched groups, with unusual intersections, uncovering the complexities in one location for a smaller group). Ludvig (2006) argues for this latter approach, to show how gendered identities are connected to other categories of difference. According to her, it is important to look at specific cases to see how individuals are able to negotiate and interpret the structures that position them, and also to see how "the 'objective' basis of conditions (gender relations, class relations, racism and sexism) changes for the individual over time and in different interactions" (p. 255). As Brah and Phoenix (2004) argue, "social class (and its intersections with gender) are simultaneously subjective, structural, about social positioning and everyday practices" (p. 80).

I argue in this study that an understanding of age and gender as social inequalities which are effective in terms of structure, symbolism and identity can take into account aspects of all three approaches that McCall identifies. This enables us to explore internet use from an integrationist perspective (Risman, 2004; Choo and Ferree, 2010) that aims to study all these aspects of intersections of social inequalities together.

With the concept of intersectionality, more dynamic relationships between different categories can be researched (intersections with different categories in different situations). Differences created through the combination of one category with one or more other categories can also be studied. The intersectionality approach has been extended from its original focus on gender, “race” and class, to include more categories, such as age (Krekula, 2007). This approach was initially criticised for the limitless list of categories that could be appended, a critique in turn refuted by Yuval-Davis (2006) who argues that certain social divisions, such as class, race, and gender are prevalent in shaping most people's experiences. However, she also conceded that the list may indeed be endless, depending on social agents who construct and make these categories visible. I would argue that while it is important to consider the impact of as many social inequalities as possible in intersectionality studies, close examination of shaping processes has to be limited to a selected number of social inequalities per study, to retain the feasibility of tracing their different intersections. Thus, it is possible to explain not only exclusion from use, but the multiple outcomes of the mutual shaping of social inequalities with technology. This study therefore concentrates on age-gender-technology intersections in internet use. Owing to the focus on age-gender-technology relations, other social inequalities with a possible impact on technology use, such as class or ethnicity, can only be considered as a broader context.

Intersectionality can be used to study the combination of different social inequalities, such as age, gender, sexuality and ethnicity. Individuals are positioned within these categories in diverse ways owing to the combination of groups to which they belong. Technology is similar to these categories in so far as it is also interconnected with them as both a process and a product of shaping processes. The analysis of older people's computer and internet use (technology typically associated with younger users) has to include gender and age as central elements. We can then not only talk about gender-technology, and age-technology relations, but age-gender-technology relations. Individuals are positioned in different situations within these relations, and at the same time, shaping processes between technology, gender and age can be observed.

Intersectionality is rarely used in studies of technology use (see for exceptions, Stepulvage, 2001; Kennedy, 2005) although its integration with feminist technology studies has been viewed as promising (Bauchspies and Puig de la Bellacasa, 2009). Kennedy (2005) focused on “race”, class, gender and technology in computer use, combining feminist technology studies with intersectionality theory.

She argued that the advantage of intersectionality theory is the inclusion of subjective experiences of women, which defy homogenising accounts of gender-technology relations. I agree with Kennedy's conclusion that feminist technology studies benefit from the integration with intersectionality. However, I argue that it gains from the inclusion of both women's and men's experiences. My research on older people's use of computers and the internet further shows that we also have to analyse the way in which individual women and men position themselves in terms of traditional age-gender-technology relations as part of domestication processes, since this highlights the potential and limits of agency in these processes. In the following section, existing studies of gender and internet use will be reviewed to further clarify the suggested research perspective. More specifically, I will argue that different approaches to studying gender and internet use neglect the understanding of gender-technology relations developed in feminist technology studies, resulting in analyses which underestimate the relevance of gender for internet use.

4.4. Studying gender in computer, internet and web 2.0 use

I have discussed the analysis of gender in existing domestication research on internet use in chapter 1. Although different aspects of gender in terms of structure, symbolism and identity are taken into account in selected studies, this is not explicitly theorised and domestication theory often tends to conceptualise gender only as gender identity. I have argued that this leads to analyses which tend to underestimate the significance of gender in internet use. The following section highlights the importance of taking the complexity of gender into account. Following this, I discuss gender and web 2.0. First, I propose an alternative definition of web 2.0 that is better suited to the analysis of the experience of users, and review existing research which focuses on online content, online communication and participation. Second, I argue that existing research on gender and web 2.0 applies a new media perspective, and that a sociological approach which conceptualizes gender as more than gender identity can better examine its complexity.

4.4.1. Gender in computer and internet use

Analyses of women’s and men’s access to the internet are an important aspect of gender-technology relations, and enable us to study the intersection of gender-technology relations with other social inequalities. As was shown in the previous

chapter, gender creates positions of exclusion together with age. Older women have lower access rates than older men (Williams, 2011). This highlights the importance of including age in analyses of internet use and gender. The gap between women and men in terms of computer use is narrowing, but has not disappeared (Dholakia, 2006). However, equal amounts of time spent on computers do not necessarily create similar internet use. As Dholakia has shown for the USA, women and men are different in their use in terms of where, and for what, they use the internet. Different types of use are associated with using the computer only from home, or only from work. More men use the internet both at work and at home, and more women only at home. This also relates to using the computer for different activities. The differences between women's and men's use are also linked to place, such as whether someone has home or also work access. Time competition between computing and other activities in the home can, for example, create a different situation for women's and men's internet use (with women spending more time on housework; Niemi, 2009; Coltrane, 2000; Layte, 1998). Dholakia found that gender differences are more pronounced among older than among younger people. Since the home is important for explaining differences in computer use between women and men across age groups, this suggests that the negotiations and practices of use in the home should be the focus of gender-technology relations research regarding computers and the internet.

Zoonen (2002), who also studied the use of the internet from a domestication perspective, succeeds in demonstrating the relevance of gender in a typology of different use patterns. In this study, four different patterns of use among heterosexual couples were found, some of them deviating from a pattern of the direct exclusion of women from technology use. While some couples practised a traditionally gendered use of the internet with men dominating computer use, others negotiated use more, while one group showed individualised use habits, and in a fourth group women were the main computer and internet users. However, Zoonen's analysis only focuses on use among couples in terms of time. It is important to take this further. Aune (1996) studied gender and domestication processes of computers in households. She found gender to be important for understanding different user types, which can be distinguished in terms of instrumental and expressive use of the computer. While her analysis highlighted the relevance of traditional gender-technology relations in the user typology she developed, she also emphasised the continuous and dynamic character of domestication processes. I argue that the analysis of these domestication

processes also has to take other social inequalities into account, as is possible through the analysis of age-gender-technology relations demonstrated in this thesis.

Moreover, gender and internet use are not only a question of use practices. An additional aspect of gender-technology relations is whether the technology is still seen as gendered even where a non-traditional internet use pattern is found. This relates to the strength of symbolic associations between gender and technology. As Thornham and McFarlane (2011a) showed, the gendering of technology is not only a result of actual experiences of use. In their comparison of adult female gamers and younger female participants in a media project, they found that both groups of women spoke about technology in ways that created female positions of incompetence, producing different "cover stories" (e.g. of women as being more interested in managing social relations than using technology, although they had experiences of using the relevant technology themselves) that produced gendered positions that potentially limit women's use of technology. I argue that this symbolic association between gender and technology use has to be thoroughly integrated into an analysis of domestication processes. This also enables us to understand internet use not only through the intersection of different inequalities, but additionally in terms of women and men positioning themselves in terms of traditional age-gender-technology relations. The following sections first discuss web 2.0 and then gender in web 2.0 use.

4.4.2. Specific aspects of internet technology: studying web 2.0

The "invention" of the term web 2.0 is attributed to Tim O'Reilly, who organised a series of web 2.0 conferences with his company. The first of these conferences took place in 2004. In 2005, O'Reilly characterised web 2.0 through a list of principles. These were "the web as platform", "harnessing collective intelligence", "data is the next intel inside", "end of the software release cycle", "lightweight programming models", "software above the level of a single device", and "rich user experiences". In 2006, he defined it as "the business revolution in the computer industry caused by the move to the internet as platform, and an attempt to understand the rules for success on that new platform. Chief among these rules is: Build applications that harness network effects to get better the more people use them" (O'Reilly, 2006, paragraph 4).

There are two aspects that make this definition difficult to use for a social science research perspective investigating the experience of internet use in everyday life. One is that the definition is very broad. O'Reilly listed several principles to describe phenomena which he classes as web 2.0, but they do not all have to be met. On the one hand, applications like weblogs are classed as web 2.0, and on the other, activities like open source programming are labelled as web 2.0 as well. The second aspect that makes it very difficult to directly rely on O'Reilly's definition in social science research is that the term was invented in the environment of the O'Reilly Media company, making it a label most firmly rooted in software development, marketing and economics.

The term web 2.0 is then also further refined in this environment. Everitt and Mills (2009) for example, emphasised that web 2.0 is not different through changes in technological standards. In their view, web 2.0 means a reorientation towards "people" in software development, turning away from a focus on plans, processes and documentation. They argue that web 2.0 is not a democratic technology, since companies make profits based on the free labour of users. Similar to early studies of the digital divide, users here seem to have little involvement in the use of the technology. Gillespie (2010) demonstrated how the term "platform" is used to convey diverse meanings to different groups in relation to web 2.0.

Other authors defined web 2.0 as an example of media. Lueders (2008) suggested distinguishing between personal media (e.g. web 2.0) and mass media. However, because of the diversity of web 2.0 sites, this distinction seems to be difficult to maintain, with, for example, mass media also using web 2.0 and bloggers becoming celebrities themselves. Harrison and Berthel (2009) argue that collaborative content construction, which has a history in the active audiences of radical and community media preceding web 2.0, is the most significant aspect of web 2.0, as it enables more people to participate. However, this only categorises web 2.0 as media for collaborative content production, without highlighting its specificities compared to other such media. Wu Song (2010) compared ten online communities, arguing that web 2.0 makes a "personalist habitus" more visible, which emphasises individual identity in online communities, as opposed to the function of earlier online communities as public space. Since the personalist habitus is not restricted to web 2.0, Wu Song offers a similar approach as Harrison and Berthel, demonstrating continuities between different types of media and highlighting the widened access through web 2.0.

Sociologists have developed alternative ways of describing web 2.0. Beer and Burrows (2007) differentiated between wikis, folksonomies, mashups and social networking sites (SNSs). In comparison to O'Reilly's definition, this classification is easier to use in a study of the experiences of everyday internet use. Its disadvantage, however, lies in it having to be constantly updated with new types of applications. I suggest as an alternative to this a definition which also relies on principles, like O'Reilly's, but principles which are more closely connected to the user perspective of web 2.0. These are: "publicly visible asynchronous interactivity" (e.g. comments on blogs); "facilitation of the publication of user generated content" (e.g. photosharing); "websites dedicated to social networking"; "portability and compatibility of data" (e.g. tools to publish Twitter messages on Facebook); and "implicit participation" (Schaefer, 2008). I argue that this definition would avoid both the breadth of the definition by O'Reilly, and the necessity of constant updating, as with the taxonomy by Beer and Burrows.

4.4.2.1. Web 2.0 as online communication

Besides the facilitation of online content production by users, the way in which users communicate online has been discussed as different because of the use of web 2.0 applications. Social networking sites are an important part of these new ways of communicating. Boyd and Ellison (2007) in their short history of early SNSs, described them as "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (paragraph 4). Before I discuss online communication in relation to SNS further, it is important to note that a large amount of computer-mediated communication is through email. Although email does not get the same publicity as web 2.0, it is certainly a more widespread form of online communication than SNSs. Research on email communication is concerned with the differences between online and offline communication (Menchik and Tian, 2008; Kim and Yun, 2007).

Like email, communication on SNSs is compared to other types of communication. Patterns in the use of SNSs and the use of different types are detected, as well as differences in the content which is communicated. Comparing the use of different SNSs in a college student sample, Hargittai (2007) found women using SNSs more than men, different ethnicities using different SNSs in larger numbers, and

experience in internet use as well as different living situations being predictors for specific SNS use. Kim and Yun (2007) related communication on the Korean SNS Cyworld to offline communication and typical elements of Korean communication culture such as Jeong (a state of mind developed from togetherness and interdependence in relationships). Takahashi (2010) analysed the use of two different SNSs in Japan, which were used by the same people for different ends. He found that the Japanese SNS Mixi was used to stay in touch with offline connections. People felt compelled to use Mixi to avoid being excluded from their groups of friends. At the same time they used Myspace to connect with people they didn't know. Through an analysis of comments on digg.com, a website where users rate the links posted by others, Halavais (2009) studied the length of time that elapsed until users received a comment, as well as the use of specific words, to predict whether users would post again. In this study, communication on digg was explained in a way that was disconnected from the context in which the users accessed the website. Whether someone posts again on digg was seen as an effect of the time between earlier posts and comments received.

Although web 2.0 is celebrated as participatory[23] and enabling of communication, with more individuals having access to the means to communicate to more people, it is also viewed as the "end of communication" by some authors. Miller (2008) argued, for instance, that web 2.0 in general, and communication on SNSs in particular, have to be read as communication which is only the exchange of data, accumulated in databases and lists, that cannot be read as meaningful. A list, in his view, cannot be a story. Not the content, but only the fact that communication takes place is relevant. The author describes this as "phatic communication". "[W]hat is seen here is a shift in emphasis from blogging technology which encouraged the creation of substantive text along with networking, to social networking profiles which emphasize networking over substantive text, thus shifting digital culture one step further from the substantive text and dialogue of the blog further into a realm of new media culture which I refer to as phatic" (p. 393). I argue that contrary to Miller's

[23] This understanding of the internet and particularly web 2.0 as participative (Lev-On and Hardin, 2008) is rarely questioned in terms of the limits of its inclusiveness (see for exceptions, Dijck, 2009; Schaefer, 2009; and Beer, 2009). I argue that the suggested perspective for studying web 2.0 as a socially shaped technology in everyday life can contribute to this overdue critique. Studies which consider web 2.0 as emancipatory media (Ebersbach and Glaser, 2004), or as the means for political activism (Byrne, 2007) and reporting (Kenix, 2009), as well as the previously discussed work by Petersen (2008), also to some extent succeed in questioning this techno-determinist view of web 2.0 as participative, inclusive, and empowering independently of context.

analysis, a personal profile on an SNS used to communicate with friends and acquaintances, should be read as meaningful, maybe even as a story. Certainly, it is also relevant what is communicated on SNS. Users do not post random words which cannot be understood by others.

Research on online communication seems to easily decontextualise what is communicated online (Beer, 2008). In some studies, online communication is measured in terms of response time to postings, and in others dismissed as data that is no longer meaningful. Similar to approaches which define blogs as nano-publics, to include them in a theory of the public sphere (e.g. Hesse, 2008), Miller has a normative ideal of dialogic culture, which he cannot find in SNSs. Through an analysis which investigates SNSs as an example of domesticated media, and studies them in the context of users' everyday lives, it is possible to demonstrate the meaningfulness of this communication for SNS users. This perspective is based on phenomenological and ethnographic research traditions, aiming to understand the way in which technology is meaningful in everyday life. Following this discussion of online communication, the next section turns to research on user-generated content.

4.4.2.2. Web 2.0 as user-generated online content

Web 2.0 makes it easier for users to publish their own content, be it textual, visual or audio content. This leads to different genres for user-generated content, such as personal blogs, theme-oriented blogs, video blogs and many more. Studies which analyse user-generated content often only rely on analysing online material, neglecting the circumstances in which it is produced. Herring *et al*. (2005) analysed one of the most prominent examples of user-produced content, weblogs, comparing them to other media technologies. They found that blogs could be seen as a genre between the static personal html website, and computer mediated communication (e.g. in a newsgroup).

Griffith and Papacharissi (2010) discussed video blogs (vlogs) and the ways in which vloggers focus on themselves and their lives. While vlogs were often constructed like diaries, telling viewers about the vlogger’s life, they were nevertheless a highly controlled form of presentation to an audience. This theme of presentation and the authentic self – interaction with an audience and private footage – was also explored by Naeser (2008) in his study of the performance of

authenticity in the genre of the vlog. Limiting the analysis to online content in these studies results in a neglect of the theorisation of the internet as a socially shaped technology in everyday life. While web 2.0 has not been analysed as an element of age-gender-technology relations, the insufficient conceptualisation of users in existing research has been addressed in debates around participation and web 2.0, which are reviewed in the following section.

4.4.2.3. Participation in web 2.0: spectators and implicit participation

In response to the debates on web 2.0 and participation, Dijck (2009) argues for a more nuanced model of user agency. She posits a more complex model not based on a binary opposition between participants and recipients, but including several levels of participation (e.g. creators, spectators, inactives), producers and consumers, amateurs and professionals. For her, the role of users as data providers for advertising seems much more important than their role as content providers. Many platforms with user-generated content started as non-commercial structures and changed to commercially driven platforms, which has an effect on possibilities for user agency. Only a very small percentage of users create content themselves, some comment on content, and some only watch or read.

Schaefer (2009) similarly portrayed the discourse on participatory culture as one-sided, as it is assumed that participation always means the inclusion of poorer and weaker actors. The discourse is characterised by the following assumptions: social progress is seen as inherent to user participation, and participation is defined as explicit participation only. It neglects to note that participating in a cultural production does not necessarily mean participation in power structures or benefiting from generated revenues. For Schaefer, the debate also neglects how media practices are implemented in software design. He distinguishes between three different but overlapping domains of user participation – accumulating, archiving/organising, and constructing (new content or technology) – as well as between explicit and implicit participation. Explicit participation is voluntary production (e.g. fan culture, activists, subcultures), while implicit participation is created through software design which channels users' actions, resulting in incidental and hybrid forms of participation of large groups of users. Like van Dijck, Schaefer emphasises the heterogenity of participating users. For example the distinction between leisure and commercial activities is not as clear-cut as often assumed.

As the discussion around web 2.0 is very much focused on participation in the form of online communication and user-created content, it seems necessary to pay more attention to the ways in which web 2.0 or other internet applications are used by "passive users", who are only passive in the sense that they are not adding content, but active in their reading, watching or listening activities on websites. Furthermore, Dijck and Schaefer's analyses of different types of, and limits to, participation in and through web 2.0, would benefit from being integrated into a research perspective that focuses on the experiences of individual users and examines domestication processes, as I propose it in this study.

4.4.3. Gender and web 2.0 use

Studies that analyse gender in web 2.0 use, approach the internet as an example of new media. They focus on gender as performance, relying on the previously discussed theorisation of gender performances by Butler (1990). Authors in this tradition neglect the contexts of production and consumption of online content as far as these contexts are invisible online (e.g. Doorn *et al*., 2010; Carstensen, 2009). Although some aspects of the production and reception of media content appear overtly and are likely to be included (an example for this is the analysis of an online conversation), these studies cannot conceptualise the internet as technology in everyday life because they reduce it to media (content) only. This means, for example, that the integration of the internet into everyday life and exclusion from access are much more difficult to research, and some aspects of gender as social inequality become obscured.

In a study on gender and Myspace (a social network site), Doorn *et al*. (2010) utilised Butler's (1993) position. Through the analysis of archived messages of a group of friends on Myspace, gender performance and transgression of norms were explored. The messages contained transgressive performances in terms of heterosexual norms, or the celebration of promiscuity and drug use. They were found to create new group norms, where the use of irony or certain types of transgression were necessary to be part of the group. Carstensen (2009) also analysed gender and web 2.0. Similarly to Doorn *et al*., her analysis is critical of studies which distinguish between women and men as given social groups, as this makes it difficult to see negotiations, and reifies gender as binary. Web 2.0 is further seen as enforcing gender binarity through the trend of transferring more and more data and content from "real life" online. Gender and heteronormativity are analysed

as important elements of SNSs (e.g. sexualised pictures, the use of SNSs for couple formation and flirting). Although gender identifications are not disappearing, the gendering of, for example, blog writing is expected to diminish as it becomes a more widespread practice. The author also highlights that web 2.0 applications are at the same time sites for feminist struggle. Carstensen demonstrates this through discussions regarding the deletion of a Myspace blog by a gay and lesbian band, and the discussions around Wikipedia entries on feminist projects (ladyfest, riot grrrl). Carstensen further found that weblogs are different from other media since they can be more easily linked to each other, creating more possibilities for solidarity. At the same time, she sees these possibilities of linking to others as a neoliberal demand on the technology user, and no longer a feminist call for solidarity.

Studies on gender-technology relations which do not focus on the design of technology usually examine either computer and internet use in general without examining specific types of internet applications in more detail, or focus on case studies of specific websites or email lists,[24]. The latter examine gender with a focus on online content from a new media perspective. These studies do not analyse the integration of the more specific applications into everyday life through domestication processes. New media studies and feminist technology studies tend to be based on different epistemological conceptions, of gender as process (Berg, 1994), or gender as performance (Butler, 1990) linked with the two approaches. Analyses of gender as performance are used in case studies of specific applications, reading gender when it is cited in online content. Analyses of internet use in the feminist technology studies tradition conceptualise gender and technology as processes, which shape each other. An analysis of the gendering of technology is then at the same time an analysis of the gendering of the everyday life in which the technology is used. While studies which examine the use of computers and the internet include studies of their domestication, studies of specific types of applications tend to analyse them as media. This means that those studies which look at specific websites or applications, concentrate on the content, often exclusively analysing online content.

[24] In many studies of web 2.0 gender is also omitted. These studies analyse the technology in terms of surveillance or labour, but they do not take everyday life and experiences of users into account; they are less about the use of a technology and interpret its meaning independently of the different practices of use in specific situations (e.g. Andrejevic, 2005). Technology is then defined as the technical possibility to use something in a certain way, not as a technology used by someone in a particular way in a specific situation. In these approaches, gender-technology relations are neglected.

They do not interrogate them as technologies, and explore how they are adopted by users beyond the user-generated online content. This also reduces the analysis of technology as social to the social production of texts, and the negotiations of different discourses in online content.

Both Doorn and Carstensen look at online content in isolation from the context of use, examining cases of renegotiation, disappearance and transgression of gender identities. In the feminist technology studies tradition, this is not sufficient, as "we need more research that seeks to understand women's subjective experience of technology and take these as our starting point for our definitions of 'technology', 'technical work' and 'skill'. Similarly, we need more research on women's subjective experience of gender" (Henwood, 1993, p. 44). I argue that to analyse internet and web 2.0 use from a perspective which combines a feminist technology studies approach with the study of the processes of domestication, gender-technology relations should be analysed not only through women's experiences, but also through men's.

4.5. Conclusion

This chapter has discussed technology within feminist research, arguing that its analysis has often been marginal in feminist theories and anchored in different disciplinary backgrounds. Different feminist research traditions, such as those that take as their paradigm the performance of gender or the conceptualisation of gender-technology relations as structure, identity and symbolic association, were discussed throughout the chapter not only as theoretical concepts but also in their application to the study of computer, internet and web 2.0 use.

I have argued that the analysis of mutual shaping processes of gender and technology developed in feminist technology studies should be integrated with intersectionality theory and domestication studies. An understanding of mutual shaping processes between gender and technology is compatible with the intersectionality approach, including technology as both the process and product of shaping processes.

I also highlighted the need to study more specific developments of internet use, such as web 2.0, from a sociological perspective, and proposed an alternative to current definitions of web 2.0, which can better take into account the experience of users. Reviewing recent research on gender and web 2.0, I argued that existing

analyses tend to come from a new media perspective. This perspective disconnects gender as it occurs in media content from gendered use of media technology, thereby reducing it to an aspect of identity. I suggested that an analysis of web 2.0 as domesticated technology could better take the complexity of gender into account.

While feminist technology studies have been critiqued for missing atypical experiences, by failing to embrace feminist technology studies more thoroughly, domestication theory neglects some aspects of gender-technology relations. My critique argues for a more explicit theorising of individuals' ways of positioning themselves in terms of traditional age-gender-technology relations as part of individual identities. The following chapters will demonstrate the application of this perspective with new empirical material, arguing that the domestication of the internet and web 2.0 takes place in the context of traditional age-gender-technology relations.

Chapter 5: The domestication of the internet

In the previous chapters I have argued that older people's internet use[25] needs to be analysed as taking place in the context of traditional age-gender-technology relations. Internet use provides an example of mutual shaping processes between social inequalities and technology, and we have to examine these in more detail to understand the use of the internet from a sociological perspective. Having discussed this perspective in the context of existing research in chapters 3 and 4, this and the following two chapters will explore it further through the presentation and analysis of new empirical data.[26]

The main argument of this chapter is that **the different phases of domestication processes** (appropriation, objectification, incorporation, conversion) discussed by Silverstone *et al*. (1992), **are shaped by both gender and age**. Although domestication theory suggests that, for example, gender can potentially be important for the domestication of technology, the conception of gender developed within domestication theory, which views it as a stable attribute of individual users (e.g. Habib and Cornford, 2002; Hynes, 2005) neglects mutual shaping processes. This study combines domestication theory with feminist technology studies, and following Harding (1986) analyses gender and age as structure, symbolism and identity.

My perspective is based on the approach of domestication theory, which views individuals and households as integrating ICTs into everyday life and simultaneously into the moral economies of households (Silverstone *et al*., 1992). By integrating the analysis of gender-technology relations developed in feminist technology studies with domestication studies, and arguing for a similar conception

[25]The main focus of this study is to develop a better understanding of internet use, with a specific emphasis on web 2.0. The computer, the internet and web 2.0 are technologies which rely upon each other, with a computer being necessary for internet use, and the internet being a precondition for web 2.0. Therefore, the domestication of the internet and web 2.0 also involve the domestication of the computer. Although the internet and web 2.0 can be accessed on various devices, the interviewees accessed it almost exclusively through desktop pcs and laptops, highlighting the centrality of such artefacts for use among older women and men.

[26] The empirical material consists of 33 semi-structured interviews with older women and men in the North East of England and 7 video recordings of interviewees while they were using the internet. Participant recruitment aimed to include similar numbers of women and men, "younger older" and "older older" interviewees (55–64 and 65+), as well as individuals with more and less experience of using computers (see chapter 2 for more details on the sampling strategy).

of age-technology relations, I attempt to forge a new approach for understanding internet use among older people. This approach emphasizes the mutual shaping processes, and the importance of the social construction of ageing for technology use, utilising sociological research on ageing and social gerontology. While gender is to a limited extent discussed in domestication studies (see Aune, 1996; Bakardjieva, 2005; Lally, 2002; Buse, 2009a; Hynes, 2005), age is rarely examined. Older people's use of the computer has largely been neglected in studies of the domestication of ICTs (exceptions are Haddon and Silverstone, 1996; Buse, 2009a). As discussed in chapter 2, Silverstone *et al*. (1992) distinguish four different phases in domestication processes. This chapter demonstrates how gender and age shape these different phases.

5.1. Analysing gender and age in domestication processes

Domestication processes are not followed by a phase of technology use, but are ongoing during use (Lehtonen, 2003). As feminist research has demonstrated, gender-technology relations are multidimensional, operating on different levels. Faulkner (2001) described these, following Harding's (1986) analysis of gender and science, as gender structure, symbolic association between masculinity and technology, and gender identity. Research on internet use that analyses gender in terms of women's and men's use patterns, tends to find that they do not necessarily separate into two different user groups, with women always using the internet differently, or being excluded from internet use (e.g. Habib and Cornford, 2000). Nevertheless, gender shapes internet use, as, for example, Aune (1996) has shown within the domestication field, and quantitative studies (e.g. Williams, 2008) repeatedly conclude. Similarly to the analysis of gender-technology relations, we find that not all individuals over a certain age are using the internet in the same way or are excluded from its use. An analysis of internet use that approaches age and gender as structure, symbolism and identity can, however, carve out their relevance and unpack the complexity of these relations. This enables us to develop a sociological analysis of ICTs and social inequalities as mutually shaping.

A situation of technology use includes different levels on which age and gender operate. These different levels are effective simultaneously, as can be shown with the example of some of the married women in the sample who use the internet at night when they cannot sleep. This practice is linked to gender structure and the domestic division of labour in which women do more housework, which might leave

them less time to spend using the internet during the day. Additionally, this can also be linked to gender identity, with women organising their leisure around men's, since participants reported how this meant that they did not interfere with their partner's sleeping practices. In terms of gender symbolism, this also means that women do not challenge men's demonstration of masculinity as linked to technological competence, via their own technology use practices.

This intertwining of social inequalities and technology use, which can be unpacked through an analysis of internet use in the context of age-gender-technology relations, is sometimes a latent and sometimes a manifest aspect of older people's experiences. My study explores both those aspects of gender-age-technology relations which individuals perceive to be important for their use of technology, and those which are not manifest within stories of computer and internet use. The manifest aspects are highlighted in everyday talk about technology. Cathrin, for example, a widowed former physiotherapist, identified different male and female approaches to watching TV. In her view, men concentrate on TV, while women simultaneously watch and organise domestic work such as food preparation. This perspective on different practices of the consumption of media technology, significantly links media consumption to an activity (food preparation) which is very often part of a gendered division of housework.

> "I know when a man watches TV, it is 90% concentration on there. Because he can't think of anything. Whereas a woman can be watching a match and she can be thinking what she is going to have for supper." (Cathrin, l.234)

More importantly, this tells us not only about her own use, but about the construction of gender-technology relations and symbolic associations within domestication processes, in which technology is socially constructed.

Therese, a retired designer who lives with her husband, related mobile phone use to differences in terms of connectedness among younger and older people. She has recently been at home more, because she had been caring for her husband and also visits her 99 year old mother, who lives in a care home nearby, on a daily basis. Women routinely perform more care work than men (Arber and Ginn 1993), of which Therese's experience as a caring older woman is an example. Therese emphasised how she would prefer to be more connected, a situation she associates with mobile phone use. She regrets that no one rings her on her mobile phone. She is always in the home because of her care work, which results in people contacting her on the landline. She explains this as mainly linked to the differences between

younger and older people's use of ICTs. The connection between age and technology use is manifest as a significant element of ICT use within her explanations, while gender remains latent in this situation.

> "I'd like to get really, you young people, you have your mobiles on all the time, and there is people getting in touch and texting and all that. I'd like to be more like that. … But my mobile phone now, is just really for emergency. You know, my mum is 99, and she is in a care home around the corner. Now if I got there, and there is any news to tell, I can send a text straight to my brother and sister, straight away, and let them know. But I'd like to be more like that. Use my mobile more. But my life is not. I am not out and about all the time." (Therese, l.415)

Ed, a retired human resources manager, found that the fact that he never finishes everything he wants to do when using the computer, might be related to his slower pace of life as a retiree. Ageing, which is often associated with retirement, the absence of employment and demands to produce things on time at work, as well as the availability of free time, are here seen as significant aspects of his own reasoning about his computer use habits.

> "And yet, I think almost every time that I use the computer I never finish all the things that I intended to do. But I am not really sure whether that is because I have slowed down because it doesn't matter. I mean, at work you have got deadlines and you have to do things. Whereas when you are retired, I can always do it tomorrow or the day after."(Ed, l.134)

Similarly, Paul found that retirement impacts on the differentiation between work and leisure in ICT use. Without employment, his work is less clearly distinguishable from his leisure. This again highlights how ageing is important for understanding ICT use owing to the changes related to retirement.

> "Well, as I am now retired, work in the sense of employment doesn't enter into it. My work is my leisure, my leisure is my work." (Paul, l.38)

Domestication theory, and especially the concept of the moral economy of the household, emphasises the importance of the social context of technologies (Silverstone, 2006). Older people may have more free time if they are retired, but this might be different for women and men, since women often do more housework (Niemi, 2009; Coltrane, 2000; Layte, 1998) resulting in them having less time for leisurely technology use. Housework and care for other family members can also reduce women's use of mobile technologies, if these activities are performed in or

close to the home. As the above quotes illustrate, age and gender shape older people's everyday lives, and are also intertwined with the use of ICTs.

Domestication processes can also vary depending on the composition of households. Early research on domestication processes often focused on the use of ICTs in families (e.g. Silverstone and Morley, 1990; Aune, 1996; Caron and Caronia, 2000; Hynes, 2005). These studies, which included two generational households with children tended to neglect domestication processes in households with older people, and did not analyse age-technology relations (see for an exception, Haddon and Silverstone, 1996), both of which are important for understanding domestication and use patterns of older people. Almost two thirds (21) of the interviewees live in households with a partner of the opposite gender, and 4 participants in households with two generations (older couple with child), while 8 participants live alone.

Many of these households have only one computer that has to be shared, and in households with more than one person, computer use has to be negotiated. Living in a household with a computer should also not be equated with use. In most households in the sample one member is the main user of the computer, and in most cases this is a man. I define the group of main users as those who have priority in terms of access to the computer, and those who use the computer most in their household. Sometimes the difference between main and other users leads to disagreements about the time spent using the computer. These disagreements tend to be around men's intensive computer use, with women resenting the time their partners spend online. Role differentiation between “main” and “other” users in a household can also influence the learning of user skills. For example, one interviewee attributed her lack of computer skills to the fact that she lived with her husband and adult son, who were both using the computer intensively. Instead of learning to do certain things herself, Dorothy relies on the help she gets from her adult son. This can be linked to research on male cultures of technology (Faulkner, 2001; Henwood, 1993), in which men’s technological competence is part of their masculine identity. The reliance of a mother on help from her son can contribute to maintaining these links between technology and masculinity, as will be further examined later on. I will now go on to discuss age and gender in the different domestication phases, starting with the appropriation phase.

5.2. The appropriation of the internet

Appropriation describes the acquisition of an ICT by a particular household. In his study on older people's computer use, Selwyn (2007) found that computers were often received through the informal economy (e.g. second-hand computers which were passed on by children). If children are the main source of computer acquisition, relationships between children and parents become important for the appropriation of computers. Computers bought from companies by older people themselves, require sufficient financial resources, which may also exclude poorer households. In my study, most interviewees bought new computers for home use, often after having previously encountered them in a work context. If computers were received through an informal economy, friends and acquaintances rather than family were passing these on. One interviewee also passed her computer on to one of her children.

As noted in the previous section, the acquisition of a computer does not necessarily result in the use of this technology. Dorothy, a former teaching assistant, who reluctantly started to use a computer in retirement, having disliked its use while she was working, explained her limited knowledge about computers as related to the help available from her sons and husband. She used to work with children with special needs in a primary school, and had to use computers together with the children in the classroom. Often frustrated in these computer use situations, she had decided not to use a computer anymore when she retired. However, in retirement, she started to use a computer to watch television and received a computer as a retirement present from her husband and sons. She emphasised that she does not need to know how to do certain things on the computer, since other family members, particularly her sons, do things for her. Her computer use is mainly related to leisure.

> "And I have all my photographs on it, what my sons have put on for me, because I don't know how to do that either. You see, it is very lazy, when you have people in the family that can do it all, I don't bother. I do have friends who are the only ones who have a computer, and so they have to do it themselves." (Dorothy, l.28)

This practice in which the adult son uploads her photos could be linked to gender, since for a male parent this practice could conflict with his masculine identity of a competent technology user. While not all fathers will view competent technology use as associated with their masculine identity, computer use was a shared leisure

activity between Dorothy's husband and her sons, emphasising symbolic associations between computer use and masculinity in this household.

In multi-occupant households, computers can be primarily used by one person to the exclusion of others. Role differentiation related to technology use within a household can then lead to some members using technology less, or not at all. Traditional gender-technology relations suggest that men use computers more than women, and only four of the interviewees who lived with a partner of the opposite gender, were in households in which women used computers more than men. Therefore, traditional gender-technology relations seem very significant in terms of the differentiation between "main computer users" and other household members, resulting in women only very rarely being the main users in multiple gender households.

In households with only one computer, identifying main computer users was much easier since participants could describe who had priority in terms of use, or who used the technology most. With several computers, it is more difficult to determine who the main user is. Excluding single households (9), I had 21 households who participated in the study (of which I interviewed both members separately in 2 cases). Women talked about using the computer more than their partners in 4 households. In contrast to my sample, Hynes (2005) found that principle users involved equal numbers of women and men in her study, which recruited participants mainly through a computer class for parents of young children. However, it is possible that this difference is a result of the recruitment strategy and the different age distribution of her participants. Additionally, my emphasis on recruiting individuals regardless of level of use, and me being a woman, could have encouraged more women who were not main users to volunteer to participate in the study. The following table describes the life situation in which computers were first encountered (e.g. studies, work, retirement, after retirement).

	Group 1: Specialized computer training	Group 2: Computer use at work or for studies	Group 3: Computer use outside work but no specific leisure interest	Group 4: Computer use started with retirement	Group 5: Computer use started after being retired for some time
Women		Martha, Cynthia, Nora, Mary, Barbara, Monica, Dorothy, Harriet, Amanda, Iris, Therese, Susan	Lisa, Tamara	Louise, Anne, Claire	Cathrin
Men	Daniel, John, Lars	Kevin, Paul, Fred, Peter, Jack, Steven, Ed, Charles			Norman, Boris, Martin, Sven

Table 1: Point at which computer use starts

The processes of appropriation of the computer vary depending on whether computers have already been acquired in the home at the time of employment, or take place in retirement. Those who begin to use computers many years after retirement tend to do so after initially resisting them, often because they thought they were “too old” to learn. Those who used computers as part of their employment have been divided into two subgroups. Group 1 has used computers as part of employment and was also trained in specialised skills to work with computers (e.g. programming). This group of interviewees comprises only men, who in addition have also had a leisure interest in computers for many years. Masculine cultures of technology and gender segregation in the labour market (Faulkner, 2001; Henwood, 1993) could explain why this group includes only men.

5.3. The objectification of the internet

Silverstone *et al*. (1992) described the integration of ICTs into the spatial environment of the home as objectification. They argued that the social display of the computer is shaped by social relations, by questions of who has access to the computer when, and what it is used for. This integration enables households to display their social status and capability to participate in a “public economy” (Silverstone *et al*., 1992). The household is not only a spatial location for

domestication processes, but describes specific social relations between individuals as well as between different households. These are important for understanding the integration of the internet into everyday life.

In contrast to television, the computer is often associated with work *and* home use, and used in both employment and leisure contexts. Additionally, laptop computers can enable users to access the internet in various places in the home, making computers more mobile than television. Despite this, my study demonstrates the similarities between computers and television regarding their spatial anchoring in private homes. This may be related to the age of householders in my sample, but desktop computers were rarely moved, and sited mainly within rooms dedicated to their use. They were rarely accessed in other households or (semi-)public locations.

The integration of the computer in the home involves the integration of a technology into a gendered space. In her review of existing research on homes, Mallett (2004) argued that homes are gendered through the activities performed in them, which "reflect and/or subvert particular ideas about gender, age and role" (p. 77). She also highlighted the lack of research on intersections between gender, age, sexuality and ethnicity in studies that focus on the home. Computers were significant for reintroducing specific types of work into the home, a development which was accompanied by transformations in terms of gender relations according to Mallett. Thus, homes are not only gendered spaces, but technology plays an important part in this process. Different parts of the home have traditionally been attributed to women or men, and are characterized by different habits of use. The relevance of the home as computer use location also varies depending on whether computers are accessed in other spatial environments such as libraries, and is related to financial limitations. Two interviewees did not have a computer in the home (both had previously lived in households with computers), and several participants regularly used library computers to access genealogy websites, free of charge. In order to unpack the diversity of processes of objectification in the data, I will first discuss the positioning of the computer in a separate room, which was the most common location. Subsequently I will turn to the example of two women who had decided to remove the computer from their homes, and finally I will examine the use of computers outside of the home.

5.3.1. A room of its own

Age appears to shape the spatial positioning of the computer in the home, since computers were often used in separate rooms which had previously been the bedrooms of children. Many participants in this study live in houses that have spare bedrooms which can be converted into studies, and they often dedicated a room in the house to the use of the computer. This is not only linked to a family situation where adult children had previously lived in the same house, but also to the financial resources of those who can afford to rent or buy houses with extra bedrooms. Computers were predominantly placed in separate rooms, and interviewees emphasised the advantages of positioning computers outside of certain rooms, such as bedrooms or living rooms. This was explained with reference to the capabilities of computers to disrupt other activities. Home spaces become gendered owing to, for example, the division of labour within households. If women are solely or mainly responsible for food preparation, the symbolic association between femininity and the spatial environment of the kitchen is intensified. Similarly, computers can be associated with offices and powerful positions, and perceived as linked to masculinity.

Some of the women suggested that the presence of computers in other rooms would be interfering with other activities. In some cases it was more particularly the use by other people that was found to be difficult for the interviewees. Depending on the power relations between household members, the positioning of computers can also be renegotiated after their original placing. Iris, for example, a former legal secretary, lives together with her husband who runs a business from their home. While she was working she needed a separate room, as she was transcribing confidential material. Now retired, she doesn't need this separate space and found her husband's use of the computer in the dining room disruptive. Subsequently, she exchanged his and her workplaces by relocating the computers while he was not at home, leaving her with more control over the space and tidiness of the dining room, which she clearly considers her domain.

> "He was working down here and I wanted my dining room back. We had it (the PC, SK), originally when I got it, it was in the small, front bedroom, and I had kitted out like an office, because I was doing all my genealogy research and I had all my files in there, then, when I got, I was doing the hearings, and it was confidential, and I didn't want somebody walk in and looking up my shoulder to see what was confidential. So that was up there. In the meantime he started doing his business from home. And he was around the corner, and it was just ridiculous. So, when he was out one day, I moved everything, so he now has the room upstairs, and I just have a tidy corner." (Iris, l.61)

In a similar way, the untidiness around a computer used by a man led to disagreements in another household. John, a former councillor who is working in various ways "for the community" as he described it, lives together with his partner, who works outside the house. As he spends most of his time in the house, he also uses the computer at home for his work. But the computer, which was located in a small and windowless space in front of the bathroom, seemed to become his, as his partner found it difficult to use the computer in this space.

> "It is a cause of friction, yes, cause of friction. Mainly because, as you'll see, the place, which is, where we have the computer, is a bit of a mess. Because it is like, like an office really. And Gabriele doesn't find it very nice to work in. So, that is the main source of the disagreement. It is not difficult to understand when you see it. So, she finds, feels a bit excluded, mainly because of some, you have to have a thick skin even to access, to get near the computer." (John, l.151)

Similarly to Iris, who doesn't like her husband using the computer in the dining room, two other women who live with partners both find the use of the computer in the dining room or the lounge to be disruptive. The computer threatens to interfere with the leisure use of these rooms. The positioning of the computer in a separate room prevents this disruption of life in other parts of the house.

Monica, a retired teacher who lives with her husband, also uses the computer in a separate room. She argues that this keeps the computer away from more multi-activity rooms. Computer use is itself not a leisure activity for her. Although she uses the computer to organize her leisure (e.g. art gallery websites), she often finds it difficult to use it for longer than an hour. Monica experiences the computer and particularly incoming email messages as potentially disrupting other activities, such as relaxing or eating. Her husband uses the shed, and some technology which is no longer used in the house was moved there. Monica herself sees the computer as less relevant for her life than other technologies. Those technologies which made a

big change for her daily life are the fridge and the freezer. This demonstrates the existence of traditional gender-technology relations, in which kitchen technology is especially important for women because of a traditional division of labour which results in them being (more) responsible for food preparation.

> "I wouldn't want it to be in the room and on, that was like a relaxing room. Like the sitting room, or an eating room, like the dining room. I wouldn't want it sort of pinging in the corner, you know, telling me I've got an email or something. So I quite like it in a room that is separate. Although, we don't, you know, I don't want it in a room where you slept, for instance either." (Monica, l.98)

Nora, a retired medical receptionist, has a computer in a separate room upstairs. She uses the computer during the day, for example, to play scrabble with friends, but prefers it in a separate room. She moved to her current house after her husband died 8 years ago. At the time, she wanted to be closer to her children and grandchildren, who would stop by when they came back from school. Nora's separate room for the computer has never been a child's room.

> "I wouldn't want a computer in the lounge, down here is to relax or entertain...My brother does it, and when he comes, he plugs his computer in there, and he sits there, all the time, and I hate it." (Nora, l.71)

Although most computers were located in separate rooms, some interviewees also used laptops in other rooms. Cynthia (a retired occupational therapist) living with her husband, originally wanted the computer in the dining room. Her story is especially informative since it highlights the persistence of gender-technology relations, and the mutual character of shaping processes. Although the computer was, because of the son's intervention, positioned in the kitchen, and the woman in the household became its main user, gender-technology relations were not completely recoded. The son, who works for an IT company, insisted that the computer should be placed in the kitchen. Arguing that as his mother was always in the kitchen, the positioning of the computer there would ensure that it was close to her and that she would regularly use it. Since computers are often associated with masculinity, and cooking (and the kitchen as a space) with femininity, placing the computer in the kitchen raises the question of possible processes of recoding of the computer and/or the kitchen. The placement of the computer in the kitchen could lead to a different association between femininity and computer use in this household.

> "When we bought the computer, which is, 7 years ago, I wanted it in the dining area. I didn't want it in the bedroom upstairs, in a little cupboard. I wanted it in the dining room. Albert (Cynthia's son, SK), who was putting it in, said 'no, no, you don't have it there. You won't use it, it is not where you are.' I said 'we will, we just go.' He said 'it goes in the kitchen' I said 'I don't want it in the kitchen - the condensation and the cooking." He said 'the only way you'll use it, is where you are'. So I thought 'let him put it in the kitchen, we'll move it'...it wasn't quite as easy as that. So, anyway, he put it in the kitchen. He knows what he is talking about." (Cynthia, l.80)

The interview demonstrated that although the woman had indeed become the main user of the computer, and was using it regularly, several times a day, for different activities, the gender-technology relation was not redefined. She did not understand gender-technology relations as recoded, with women being able to use technology better than men. Neither had the association between masculinity and technology been substituted by an idea of gender-neutral technology. Instead, it was recoded differently and Cynthia highlighted, for example, the usefulness of the internet for her husband in solving problems in the house with information on DIY. The placement of the computer in the kitchen enabled Cynthia to use the computer more, but simultaneously this also re-inscribes the association between the kitchen and Cynthia as a woman, potentially resulting in her spending more time in the "feminine" space. In terms of traditional gender-technology relations, Cynthia highlights how the computer is still useful in supporting them.[27]

> "and when the phone is wrong you say "ah, I must be able to fix that". He knows nothing about phones. He goes to the computer and he (..) and it comes up there, and he prints off, and he goes away with it, everything, he can do anything" (Cynthia, l.115)

This is important in terms of the persistence of gender-technology relations. Pfeil and Roeser (forthcoming) have argued that gender-technology relations lose relevance with increased diffusion of a technology. This example suggests that diffusion of, or access to, technology, and even the experience of its use, are not necessarily changing gender-technology relations, in the sense that they can be completely recoded or made irrelevant (see also Thornham and McFarlane, 2011a). Widening access to technology, for example through a different spatial positioning, intervenes only at one end of a mutual shaping relationship. As Henwood (1993) has argued, gender-technology relations have to be problematised to be changed.

[27] Cynthia's husband participated in the interview on her request, and this emphasis on his ability to "fix technology" could also be read as an attempt by Cynthia to "maintain couple harmony".

In this example, the computer is used mainly by Cynthia, which seemingly disrupts the symbolic association between masculinity and technology. However, Cynthia is using the computer in the kitchen, and spending more time in the kitchen than she would without the computer. Although she thinks that it would be too expensive to buy another computer, she would prefer to have an additional computer in the dining area, so she does not always have to walk to the kitchen when she accesses it. Simultaneously, the kitchen space itself is opened up to more people, as Cynthia and her husband spend time with friends and grandchildren looking at something on the computer. Cynthia views this as positive aspect of computer use in her household.

This illustrates the multidimensional aspects of gender technology relations, which are not only a question of who uses the computer when and where. It is important to take into account gender inequality in terms of the division of labour in the household and also the character of everyday life as already shaped by gender. Cynthia is not just a woman who uses the computer more than her husband. She is also using it in the kitchen, and this configuration leads her to spend even more time in the kitchen and to keep an eye on the computer during the day. While Cynthia clearly enjoys using the computer, we cannot find radical change in gender-technology relations in this example. Gender-technology relations are to a certain extent altered, as they do not exclude Cynthia from technology use, but they are still relevant after having been reconfigured through Cynthia's use in the kitchen. Not only is technology and masculinity still a strong symbolic association for Cynthia, but the use of the computer also leads her back to spending more time in the gendered female kitchen space. This example will be further discussed in chapter 7.

5.3.2. Memories of past times

The location of the computer also points towards the importance of social relations within the household for the integration of ICTs in domestication processes (Lehtonen, 2003). For two women in the sample, the computer was associated with a memory of household members who used to assist them in their use. When the household composition changed, both of them removed the computer from their homes and only accessed the internet in public libraries. Although the large majority of interviewees had a computer at home, these two women had lived in households with computers but later removed them when they lived alone. Martha had lived together with one of her sons and his partner but after they had moved out, she

removed the computer, because no one was there to help her with it. The removal of the computer potentially also had emotional aspects, as those who had supported her use of the computer, were not part of the household anymore. She had previously worked as an IT instructor, and the computer reminded her of her work, and caused her anxiety. In the second example, Cathrin, a former physiotherapist, had removed the computer after her husband had died two years previously. He had helped her when she wanted to use the computer, but now living alone, she found the experience of using it very frustrating. Encouraged by her friends she opened an email account, and attended several computer courses in libraries, in order to use emails to communicate with them.

Martha and Cathrin both regularly visited the library to use the computer. It was the presence of the computer in the home which they inhabited alone, rather than its use, which they found difficult. They had both previously lived with others who would support their computer use, and when living alone found that the presence and use of the computer in the home were problematic for them. Libraries appeared to become highly important for both women in accessing computers, as they did not regularly use them in the homes of friends either. The presence of the computer in the home reminded them of former emotional and household relationships, and of individuals who had used the computer in their homes. Accessing the internet in a library gave them the option of using a computer without it invoking similar memories, and of receiving free help from the library staff.

5.3.3. Computers outside the home

Other interviewees who used computers in public libraries did this only temporarily to overcome connection difficulties at home, and more often to access genealogy websites, since libraries provide access to various fee-charging genealogy websites for free. One interviewee also regularly visited a friend, taking her own laptop which she would then connect to the wireless network. Women who lived alone, as well as some men, also used computers in other places when they were on holiday, and some of the interviewees also occasionally used computers in their children's homes. This use was, however, limited, as interviewees worried not only that they were causing damage to their children's computer, but also that they were disturbing their privacy. Barbara, a retired finance clerk, who has lived alone since her husband died, lets her daughter use her own computers but is reluctant to use the daughter’s computer herself. Barbara viewed it as a potential infringement of her

daughter's privacy. This example also highlights the intimate character of ICTs in everyday life, resulting in reluctance to use a computer which is owned by another family member.

> "I play with hers sometimes. Just, I don't do too much on that. I just use it, if I am there, play games. Because I don't want to upset it if I am doing something wrong. Then I don't like to look at, she maybe doesn't want me to see what she, what is on it. So I usually just play games on it." (Barbara, l.179)

For some interviewees this reticence to use their children's computers was also linked to their own positioning as not very competent computer users, describing everyone else, including their very young grandchildren, as extremely competent. This further confirms the relevance of age-technology relations for older people's experiences of computer use.

5.4. The incorporation of the internet

The incorporation of ICTs is the phase in which they are integrated into regular household practices, such as slotting into routines of everyday life tasks. While Silverstone (1993) suggested that ICTs are connecting households to, for example, a "national time", through the consumption of news on TV, this role has been disputed in terms of the internet. Petersen (2007) explored the internet as intertwined with mundane tasks, undermining its role as structuring everyday life. It can be argued that unlike TV, the internet does not necessarily structure daily life. However, the role of news on TV is (despite the continued relevance for TV in retirement) already diminished owing to the multiplicity of TV channels and programmes. Through the convergence of media, it is possible to consume TV news through the internet. The dominance of national news websites (e.g. many interviewees used the BBC website as their homepage) are furthermore a reminder of the importance of traditional media for internet use. Without employment structuring everyday life, the structuring of the day can be of special importance. Other activities such as caring, housework, time-intensive leisure interests or volunteering can have similar structuring effects to employment. It is not only online news websites, but email as a personal form of news, which is checked routinely in the morning, or at other times of the day. I will now discuss the structuring of everyday life through internet use, the use of the internet by women at night, and intensive internet use by men during the day.

5.4.1. Structuring daily life through use of the internet

While some interviewees do not use the computer every day, others check their emails several times per day. In relation to the structuring of everyday life, it is important to note that it might be difficult to connect a household to a national time through computer use because of the diversity of possible uses, and the large amount of websites. However, it can be argued that the use of email and news websites can to some extent fulfil such a function. Therefore, for many older people, the internet is not so mundane that it is intertwined with many different activities during the day, but instead, only used at specific times. In contrast, a small group of interviewees in the sample use the internet throughout the day, intertwining it more with diverse activities. At the same time, some also talked about the difficulties involved in not letting emails structure their day too much. Since emails can arrive at any time, interviewees viewed them as potentially disruptive, if they were always dealt with immediately. A dedicated time for checking emails is equally an example of ICTs structuring daily life. This was not experienced as similarly disruptive, however, because individuals have more control and decide when they want to read them.

For Monica, a former teacher who lives together with her husband, internet use is linked to the routine of cooking at a certain time during the day. Cooking is also often gendered, with women being responsible for food preparation. For Monica, cooking was an important aspect of her life, as she found that technology for housework and cooking is the most important technology for her everyday life. The importance of these types of technologies for Monica suggests that for her everyday life, gender might be very important for structuring the work she does in the home.

> “I tend to, well, Lee, he is my husband, he switches it on in the morning. So he tends to have a look while I am getting ready, and he will say 'you got an email from so and so', so sometimes I will, sometimes I'll say 'oh, I'll look later'. So, I prefer it in the morning, I don't like using it in the evening. I quite, in the morning, or, like, especially this time of the year, with the early nights, tend to, you know, sort of the end of the afternoon, before we eat, in the evening, that sort of time. You know, fiveish, sixish, if it is, if the dinner is in the oven, that sort of, spend an hour. While it is cooking.” (Monica, l.108)

> “It is very hard to, which is the most important. Because the things that I think have helped me, are, the deep freezer, the freezer, the dishwasher, the washing machine and the dryer, definitely, definitely. That makes your life easy. And I spend much less time shopping or doing washing and stuff, for instance than my mother did. Because it is all done by machine.” (Monica, l.585)

The internet can be used to structure the day although for some, it seems particularly important not to “let” email structure the day in an unwelcome and disruptive way (see also interviewees concerns about disruption through the positioning of computers). Internet use is incorporated into existing routines, for example, gendered routines such as cooking dinner. The majority of participants do not use the internet all day and it does not become so mundane that it is almost undistinguishable from various other tasks into which it is integrated, as was suggested by Petersen (2007).

It is notable that email is often researched from a media perspective (see for examples Menchik and Tian, 2008; Kanayama, 2003), focusing on media content and neglecting domestication processes. Like studies on web 2.0, research on email tends to focus predominantly on the “media program” rather than explore it as an example of the integration of technology in everyday life. Paul, a former driving instructor who lives alone, also found that it is an important social skill not to let the internet or email structure daily life, and to ignore incoming emails while he is doing something else. He has learned a skill for managing his time in relation to computer use, by not always immediately reacting to email prompts.

> "It can consume a tremendous amount of time, if you don't keep a time management in in that respect. That is a tremendous problem for a lot of people. … If I am actually working on something, and the email prompt comes up in the bottom of the screen, I am able to ignore it and keep on doing what I was doing. But I know other people just become interrupted and then react to each interrupt as it arises. In that respect it has probably reasonably, worsened, the quality of life for those people. Because they have lost control of their lives and the computer is now controlling their life." (Paul, l.282)

The experience of Paul highlights the problems associated with the structuring of everyday life through the use of email. This is related to positioning within age-technology relations, which state that an older person, in contrast to a younger person, is able to live independently of computers. Some interviewees talked about a threatening aspect of the structuring of everyday life through computer use. This is strongly associated with the loss of control, as individuals would react to emails "as they come in". This also seems to contrast with those interviewees who emphasise the experience of flow and joy related to "losing track of time". The latter similarly experience a loss of control, but a pleasurable loss of control over time.

5.4.2. Women, computer use and sleeping routines

Several of the female participants also used computers when they could not sleep at night. None of the male participants talked about sleeping problems and the use of computers when they could not sleep. Sociological research on sleep demonstrates the relevance of gender for sleep patterns. Hislop and Arber (2006) argued that sleep is shaped by gender, through differences in women's and men's access to undisturbed sleep, for example due to women's roles as carers for children and elders. In their study of the experiences of women in midlife (40 to 59 years) and later life, they found that sleep quality depends on physiological changes related to ageing, institutional changes (e.g. retirement), relational activities (e.g. caring) and life-course changes (e.g. widowhood). According to Hislop and Arber, women's quality of sleep depends on their ability to negotiate time constraints, to adjust to new time structures in later life, and to challenge ageist attitudes (e.g. not avoiding sleeping routines which are more adjusted to later life because they are seen as typical for older people, in an attempt to avoid being categorized as an older person). In my study older women described routines of using computers to deal with sleeping problems. Harriet (former market research assistant) and Cynthia (former occupational therapist) both use the computer when they cannot sleep

during the night. Harriet lives together with her husband, who has his computer in a separate study. They have recently replaced a broken computer with two laptops since Harriet wanted to have her own computer, which she uses in the living room. She also uses the living room for leisure activities such as painting. When she cannot sleep in the early morning, Harriet uses the computer to write recipes and to email them to her cooking group.

> "I tend to wake up very early in the morning because I don't sleep very well. So I usually use it half five, six in the morning." (Harriet, l.61)

This also means that she can use it at that time without negotiating her use with her husband. Harriet stated that it is impossible for her husband to teach her how to use the computer, because of their relationship as a married couple. She also described a situation in which her husband and her brother-in-law tried to use the computer for two hours without any success. Harriet could see that one of the leads was not plugged in, but hesitated before she pointed it out to them, enjoying knowing why they weren't successful in their use of the computer without telling them. This can be linked to masculine cultures of technology which exclude women. She found it impossible to receive support for her computer use from her husband, and at another time she particularly enjoyed the situation in which she could solve a technical problem her husband and brother-in-law could not. Although she told them about the unplugged lead, she hesitated because she was tempted to equally exclude them. This seemed to be linked to a certain pleasure of superior technical knowledge within the dynamics of her relationships with her husband and brother-in-law. Harriet's use of the computer in the morning enabled her to use it without having to negotiate these gender dynamics at the same time. Although she had been using computers for many years, Harriet had only recently demanded her own laptop, which she started to use in the living room while her husband used his computer upstairs. Similarly to her accessing the computer early in the morning, this could possibly support her in becoming more independent in her computer use. Harriet's experience demonstrates how the integration into time and spatial context is intertwined with gender-technology relations and relationship dynamics.

Cynthia described a situation in which she found a tune her husband was looking for while using the computer during the night when she could not sleep.

> "I was up in the night, because I often don't sleep. And I came down here and I put it into Google. And it started to play, the music, and Tom was in bed. And the tune is like 'lalala', I said 'I've got the tune on the computer!' ...music playing in the kitchen in the middle of the night." (Cynthia, l.453)

For Harriet, who writes recipes in the morning, the use of the computer is a means to start the day without waking her husband, since she emphasizes that it would not be fair to wake him up that early. Cynthia, who found the tune she had been looking for at night, also highlights the unusual aspect of this situation, which could also be related to the fact that her husband was presumably sleeping at that time, and she was potentially waking him up. In both examples, women do not only experience sleeping difficulties, but they use the computer to pass the time while they are awake, and try to avoid disturbing their partners. Although this study did not systematically compare sleeping difficulties and strategies to cope with them, it seems remarkable that it was only women reporting on using the computer to deal with sleeping difficulties and to avoid disturbing others.

A slightly different experience is the use of the computer by Mary, a retired senior lecturer who lives with her husband and her younger son. Mary's older son attends university in another town, but also uses the computer when he is at his parents' house. Despite the presence of several computers, access to the "main" computer in the study is shared by all family members, since this is the only computer which is connected to the internet and the printer. The fights over access to the computer between her sons led Mary to avoid using this computer during the day. Instead, she uses it early in the morning with everyone else getting up very late.

> "I wouldn't say I sort of get involved. But my sons are bad tempered. They are young. And they really are. And if they want to use the computer, they want to use it now sort of thing. So that sometimes causes conflict between them. So I just "aah, can't be bothered to get into that" unless it is something that I really have to do, which is not often, really." (Mary, l.70)

Mary uses the computer in the morning while the others members of the household sleep, so she doesn't have to fight for access. In all three examples, computers are used by women while the male members of the household are sleeping, which minimizes the impact of women's use on men's access to computers. Women access the computer at times when their use cannot interfere with the use of the computer by men, rather than negotiating access. Women's use at night means that

men's sleep is not disturbed. Additionally, these practices do not interfere with the demonstration of male technical competence during the day.

5.4.3. Men and time-consuming use of the internet during the day

In several of the households men and women disagreed about the time which should be spent using the computer. Following traditional gender-technology relations, men were using computers more than their female partners in most households.

Kevin, a retired local government worker and Susan, a retired teacher, live together and both participated in the study. Kevin uses the computer "all the time", and says that he "probably" spends too much time on it, which leads to disagreements between him and his wife.

> "I tend probably to spend too much time on the computer, so I use it all the time...So, just when there is time, I'll do it." (Kevin, l.35) "We have disagreements about when I, how long I spend on the computer, and what, when she can't get on it. Yes, we do. But, nothing important, just, you know." (Kevin, l.44)

Susan, who is critical of technology use as it contributes to dependence on technology, said that she has to fight to gain access to the computer.

> "I got to fight to get on it" (Susan, l.45, Kevin's wife)

For some couples, the large amount of time the men spend on the computer can lead to disagreements. If there is only one computer in a household, the use by one person further excludes others from use. Another element of domestication processes is the social construction of adequate and 'appropriate' amounts of time spent on the computer. Although several people do not want to spend 'too much time', it is men who talk about their female partners discouraging them from overuse of the computer. Daniel, who lives with his wife and his older son, describes how he refrains from certain computer use activities, as his wife feels that he spends too much time on the computer already.

> "I could do it. But, I don't wish to, choose not to devote my time to that. My wife thinks I spend enough time on the computer doing what I do. So there are things that, you know, like doing (..) programming, Wikipedia, research and other things, that I'd be interested in." (Daniel, l.431)

Norman, who in contrast to Daniel, has been using computers only for a few months, describes a similar situation in which his wife would sometimes tell him to stop. Norman finds that his wife is “probably right”, as he also views time-intensive computer use as problematic in terms of health and “being too single minded”, which could be understood as a critique of computers as leading to withdrawal from other activities.

> “Yes, I run short of time. Also, because it is not a good thing to spend too much time in front of a computer anyway. If I do start to drag out the time a bit, I sometimes get pulled up by my wife and she says 'that is long enough' and she is probably right. Not just from the point of view of being sedentary, or being too single minded, but also I suppose from an eyesight point of view, as well.” (Norman, l.116)

Similarly to Kevin, Daniel (a former IT trainer), and Norman (a former shift supervisor) use computers more than their wives. They both talk about their wives stating that they spend too much time in front of the computer. Daniel's wife also participated in the study, and talked about the negative effects of computer use on leisure. For her, one of the effects was a reduction of collectively spent leisure time, which she regrets.

> “I think it can be very isolating. As I said, the three of us are all in separate rooms, on our separate computers. And I am sure this happens everywhere, rather than all, it is very rare but the three of us sit in the lounge together. We all want to watch different television programs, so we all watch different television on our different computers.” (Dorothy, l.199, Daniel's wife)

TV, which was studied from the perspective of the domestication of technology early on, has been used collectively within families in the past. This role of TV as bringing families together through the leisure activity of collective watching, has been weakened, for example, through the purchase of several TVs in households, or the introduction of computers as alternative means of accessing TV programmes. Dorothy mainly uses the computer for watching TV. Despite her initial withdrawal from their use around her retirement (owing to her difficult computer use experiences when working in a school), she received a computer from her family as a retirement present. Since then, she has the opportunity to watch what she wants, and to use it alone and in relation to her sleeping habits (she usually watches it in bed, falls asleep during a programme, and continues to watch in the morning from the point where she fell asleep). However, Dorothy regrets that because everyone wants to watch different TV programmes, they now spend time alone in front of

computers, which she experiences as isolating. This highlights the different situation in terms of “doing family” through collective ICT use where there are multiple ICTs available to enable individual use, instead of the negotiation of collective communal use.

In instances where couples disagree about the time which should be spent online, it is usually men who are using the internet more than women, but men are not always the main users of the computer. Some women use the internet more than their partners. Tamara, a former supply teacher and Therese, a designer, use the internet more than their husbands. Tamara only uses the internet during restricted hours and she does not like to spend more than an hour in front of a screen. Therese, who had been caring for her husband recently, did not mention any disagreements around computer use in her household. She viewed her intensive use of the computer as an advantage, as she might feel less left out once her husband (recovering from an illness) starts to see his friends outside the house more. This highlights again the importance of computer use in couples as a means of individual leisure. While Dorothy found that the use of the computer had an isolating effect, Therese welcomes being able to spend her individual leisure with the computer.

5.5. The conversion of internet use

According to Silverstone *et al*. (1992), conversion describes the phase in domestication processes in which the use of the internet is “translated” to the outside of the household and linked to its environment. This includes the use of the technology for self-presentation, and technology use as an aspect of this. Additionally, I will also discuss “inappropriate internet uses” as an aspect of self-presentation.

The emphasis domestication theory places on the possibility for change and the agency of actors, can come into conflict with its conceptualisation of users as domesticating technology according to their position, and reproducing or maintaining that position in society (Silverstone *et al*., 1992). This highlights the need to connect domestication theory with more general social theory, for example, feminist theory. If actors only domesticate technology according to their current position, older women might never use computers, reproducing their status as technology-distant, less connected, less “technical” individuals, simultaneously

strengthening masculinity-technology and youth-technology associations. However, if they do use computers, this means that either (1) they re-define technology, or (2) re-define gender and age identity. I argue that to some extent, both take place in domestication processes through mutual shaping. The conceptualisation of mutual shaping in feminist technology studies allows us to highlight the nature of gender, age and technology as processes (see Berg, 1994). It is important to acknowledge the persistence of age-gender-technology relations due to mutual shaping processes, including the emphasis on women's use of the computer for communication purposes, which serves to perpetuate traditional gender-technology relations; and the need to question more than individual practices of technology use (positioning oneself in relation to traditional age-gender-technology relations) for changing them (see also chapter 8).

Coming back to domestication theory and the reproduction of individual positions in society, I suggest that one's position is established and maintained in domestication processes, but that these positions also hold the potential for diverse outcomes of the intersections of different social inequalities. We need to understand age and gender as also part of traditional age-gender-technology relations, which are an element of the context of internet use, and as processes on multiple levels, instead of as fixed attributes of individuals. This allows us to better theorise the potential for change of age-gender-technology relations in domestication processes. My argument is that precisely because of what we know about gender-technology relations, and what we are starting to explore in terms of age-technology relations, thinking of gender and age solely as gender and age identity, and fixed attributes of individuals, hinders us from theorising agency and change in domestication processes. If we conceptualise them as intersecting on different levels, this allows us not only to explain exclusion from technology (of older women) or intimacy with technology (of older men) in conformity with traditional gender-technology relations, but also atypical experiences of older women and men.

Most existing research explores either age or gender or another social inequality, and therefore, it might seem that there is one position that can be maintained, when in fact the technology and the social inequality are mutually shaping. Current research in the domestication tradition, tends to oversimplify categories such as gender, and as a result underestimate their significance because it lacks the tools to theorise age, gender and technology as intersecting processes. It is not only the influence of another social inequality which contributes to one's technology use, it is

also the interplay of inequalities as processes, which shapes particular internet use experiences.

5.5.1. Using technology for 'displaying family' and self-presentation

As will be further discussed in the next chapter, family relations can be important for internet use. Finch (2007) has highlighted the importance of "family display", which serves to demonstrate the functioning and importance of family relationships through objects or narratives. In contrast to "doing family", "displaying family" works as a demonstration of the functioning of certain relationships. In some cases, "doing family" does not include "family display" because the specific practices are understood so clearly, that no extra display is needed. She argued that certain times and life changes might demand a renegotiation of family relationships, which leads to the need for family displays. Both examples that I will discuss in this section include interview excerpts in which older women describe their use of the computer to display family relationships with individuals who are currently not living with them. In the example of Cynthia, the displayed photos are pictures that "go back generations", likely linking the couple to people who are deceased. In contrast to this, while friends are visiting her and her husband for supper, Iris "puts on a slideshow" of her children, who live in another country. According to Finch (2007), family display needs an audience. In the two examples, the computer becomes a means to display these relationships: in the first, to Cynthia's partner (although she also talks about using the computer together with friends in another part of the interview); and in the second, to Iris's friends. This is an example of the conversion phase in domestication processes, in which internet use is "translated" to the outside of the household through the practice of family display.

Cynthia has a slideshow of family pictures on the computer located in the kitchen which links her and her husband back to older generations. Her husband, who spends his time building model trains in the workshop, comes into the kitchen to drink coffee and look at the pictures.

> "All our family photos are on a slide show on it, all our family from generations back are on there, and they are coming all the time. And when Tom comes in from the workshop, he comes in for a cup of coffee, and he starts to look at the pictures. And it is nice!" (Cynthia, l.98)

Cynthia described her husband looking at the photographs as a family member. Iris described the use of the computer to look at photos with friends – displaying family, through its pictures, to non-members.

> "we got people in for supper, we got some pictures of the kids, I'll say 'oh, I'll put on a slideshow, while we are eating' and they come up" (Iris, l.165)

These extracts demonstrate the importance of family connections within and between particular households, connections which are enhanced by ICTs. Several interviewees also use the computer to celebrate family life by sharing family photographs via email. Some have online profiles and personal accounts on different web 2.0 applications linking them to other family members, or use genealogy websites, which will be further discussed in the next chapter.

In contrast to the use of computers for 'doing family' and 'doing family display' in these examples, several interviewees found that online profiles on social networking sites and blogs were of little use to them. Since many studies on SNS use and non-use are based on surveys of college students (see for examples, Tufekci, 2008; Jones *et al*., 2008; Jackson *et al*., 2001), the relevance of age-technology relations for older people's use and the domestication of SNSs in families has not been analysed in existing research. For example Martha, the retired lecturer in office administration, found that because she was known to others in real life, she did not need to connect with new people online. She said that for her it was already difficult to keep up with meeting those she currently knows. Additionally, she expected that people she could meet online were more likely to deceive her about their real identity. For Martha, those individuals who were important to her already knew her. This can also be read as asserting an age identity which is, contrary to the symbolism of age-technology relations, not characterised by a lack of social connectedness. Instead, Martha emphasised that she did not need to meet anyone new online.

> "I can't see any reasons for creating a homepage. By this time most people know who I am." (Martha, l.271)

Boris was convinced that those who would be interested in similar things as him, and who would be interesting for him to contact, would not use social networking sites. For Boris, age shaped the use of web 2.0 use in the sense that older people were unlikely to use social networking sites.

> "I would think the chances of going on the computer and meeting people who would interest me, or who I would like to know, are not very high. I think it is, and again, and I think it is probably a generational thing. I dare say if I were 60 years younger, I may find that I would indeed do that." (Boris, l.77)

This also has to be linked to the social construction of age, and the expectation that older people are non-users of new technologies. Amanda had been writing a blog for some time, but found that no one was interested in her writings, and therefore stopped writing online. She felt that because she did not have an audience for her self-presentation, her writing was not worth the effort.

> "So I did try that, and I quite enjoyed it. It got a lot of stuff off my chest, as we would say. But, I don't think anybody would want to read it! And then I thought "well, really, this is a sort of a bit of a waste of time!" just sort of chipping this information out, my views into the ether so to speak, I don't know, this is a bit silly really, I could be doing something better with my time!" (Amanda, l.253)

This decision of giving up writing a blog can be linked to personal preferences for different styles of communication (e.g. face-to-face versus writing a blog), as well as to the skills needed for making a blog known to potential readers, and for measuring site visits. The perception of a blog as a younger person's medium is likely to also have an impact on the expectation of potential communication partners and readers online. Amanda's practice of writing a blog could be an example of challenging the categorisation of blogs as the medium of younger people, to allow her to communicate things which were important to her. However, she only pursued this for a limited time, and also does not read any blogs herself now. Amanda was not only exceptional in the sample because she wrote her own blog for a while, but also because she perceived all websites she was using to be more for older than for younger people. Although other interviewees had participated in group blogs, or read them, none had written a personal blog. Most participants also struggled to think of websites they were using which were aimed at older people.

This section described two contrasting experiences, on the one hand the facilitation of "doing family display" through the use of the computer, and on the other hand the reluctance of some older people to use SNSs or blogs to present themselves online. As the examples demonstrate, this reluctance can be linked to age-technology relations in several ways. Martha felt that she did not need to connect to people she didn't already know, Boris judged the probability of other people of his age with similar interests using them to be low, and Amanda wrote a blog for a while,

although she was disappointed by the lack of response. None of them used SNSs (Martha, Boris) or blogs (Amanda) at the time of the interview. The next section turns to another aspect of the conversion phase of internet use. It focuses on how technology use can be an aspect of self-presentation.

5.5.2. Technology use as an aspect of self-presentation

The use of the internet can be an important aspect of self-presentation. As Kleif and Faulkner (2003) demonstrated, men's pleasure associated with technological competence can be linked to gender-technology relations. The internet is usually not studied as a conversation topic, but instead through online content or reported internet use behaviour. I argue that the dominant approach of researching the internet from a new media perspective contributes to this, since it leads to a neglect of the internet as technology. Since internet use in retirement often takes place without, for example, regular classes, conversations about the internet with others in everyday life can be a resource for support in learning processes. Moreover, I argue that opportunities for these conversations are shaped by traditional age-gender-technology relations.

Some of the interviewees were, for example, volunteering to teach others how to use computers. The women who are the main internet users in two person households appear to be the only ones to emphasise that they don't talk about using the internet with others, as their friends are not interested. As research on everyday talk and its topics suggests, what individuals talk about tends to be associated with gender roles (Bearman and Parigi, 2004). I suggest that male cultures of technology also shape conversations about the internet. Associations between masculinity and technology (Faulkner, 2001) can be assumed to carry on into ICT use in retirement. The structural exclusion of women from technology, together with symbolic associations, are likely to have a negative effect for some women in terms of making computer use more difficult for them. This can also be related to the lack of potential participants for computer talk (especially in same-sex groups with women being more excluded from internet use), and to the symbolic associations that make this talk less likely among women, as well as to women's gender identity as being less intertwined with talking about internet use. Men's pleasure in competent technology use (Kleif and Faulkner, 2003) might result in different practices of talking about the internet, and of integrating this technology into their self-presentation.

> "Well, some people, a lot of my friends are just not interested in computers at all. So you would not like to go on too long about it because it is just, you can see their eyes glazing over." (Tamara, l.261)

Tamara, the former supply teacher who is the main internet user in her household (her husband hardly uses the internet), finds that her friends are not really interested in her computer use. Therese, who is also the main internet user in her household, similarly says that people she knows don't use the internet much, which limits her possibilities of talking about it. In contrast to the experience of these two women, two of the men explained that they regularly talk about new developments of internet technology with their (male) friends. This highlights the different situations for women and men resulting from age-gender-technology relations, in which some men regularly talk about new developments, while two women do not have anyone among their friends to talk to about the internet.

"Talk about the internet" is also linked to competencies, in the sense that different competence in using computers could result in different types of talk. Also, distance towards computers or technology in general, has an influence on the likely types of "talk about the internet". Social networks are another aspect of the participant's everyday life with impact on which conversations are possible. While there are many studies that analyse online conversation, the internet is not studied as a conversation topic itself.

5.5.3. Inappropriate uses of the internet and vulnerability

So far, I have discussed the domestication of the internet mainly through the integration of specific uses of the internet into everyday life. This also included reasons for non-use of web 2.0 applications and conflicts around time spent using the internet in couples. Reluctance to use web 2.0 was viewed as linked to age-technology relations, and the disagreements around men's extensive use of the computer in some couples was viewed as linked to gender-technology relations. This section takes further the discussion of negative evaluations of specific uses of the internet. Domestication processes do not only entail the prescription of "good" uses, but crucially also rely on the construction of technology uses which are viewed as negative and which individuals and households aim to avoid.

The commercialisation of the internet as well as pornography were frequently cited as undesirable uses. Younger people are very often constructed and perceived as

especially vulnerable to the “dangers” associated with internet use, and Harriet even suggested “closing” the internet to prevent online child abuse.

> “These blogs and whatever, that kind of thing. I think they are a waste of space. And they are open to abuse. And you must know about child abuse. You know, through the internet. … I would close it down, for that reason. Because I don't think any child is worth, you know, that.” (Harriet, l.543)

Fred viewed access to the internet in homes with young children as problematic.

> “I mean, if I, if my family were early teens and beyond, I would be, I would have serious concerns. Obviously there is things you can do to make it safe, but I am not, I am not familiar with it because it is not an issue for me. So I don't really know much about it.” (Fred, l.120)

Only one participant also talked about the physical vulnerability of older people related to technology and ageing bodies, worrying about the time when she might not be able to adequately deal with, for example, a bank, because of having become slow in her reactions in the future. The fact that older people are not perceived as particularly vulnerable, is certainly also to do with their construction as non-users. Besides this, however, the fact that only one of the interviewees talked about the vulnerability of older people as related to ageing bodies, highlights the importance of being especially careful when approaching older people's internet use through the lens of older and less able bodies. While Buse (2009a, 2010) found that older people’s computer use experiences were importantly shaped by their embodied technobiographies and competences gained in earlier experiences with other technologies, my study highlights the significance of the social construction of age in domestication processes.

> "And I do think that, I am getting to the age now, where, I can still fight my battles. You know, financially, and legally, and I can give people advice. But there will come a time when I can't. ...And I do think a lot of old people are exploited on the computer. Mainly because, because they are old. … I've done it many times, and I went on the phone, you know, and I said, and it worries me, that I can do this now, and maybe in ten years time, I will have lost my marbles, and I can't. Who is gonna do it then? It is the exploitation of people, it does worry me. … But it is, you worry of losing that power of analytical thought. Sometimes, people lose the ability to put into words what they know they know is true. Now, it is more difficult on the internet. You know, you can't imagine, with arthritic fingers, very arthritic fingers, and by the time they've got their fingers to work, they've forgotten what they were arguing about. And if it is about money, they can lose a lot of money." (Harriet, l.548)

An important aspect of inappropriate use was also spam email, highlighting the commercialisation of the internet (Cavanagh, 2009), and the difficulty of avoiding its effects. Pornography was for many interviewees linked to gender in the sense that men are more intensive consumers of pornography (van Doorn and van Zoonen, 2009). Sexual abuse, another problematic aspect of internet use, was seen as linked to age, as younger people were seen as particularly vulnerable. Older people were only seen as vulnerable in terms of internet use by one person, who talked about her ageing self. This contrasts with the emphasis on embodied competences in older people's domestication of the internet suggested by Buse (2009a).

5.6. Conclusion

Adopting Silverstone's model of domestication, I have demonstrated in this chapter that the different phases of appropriation, objectification, incorporation and conversion are shaped by age and gender. Rather than focusing on different use patterns between women and men, gender and age were explored as shaping these phases. The integration of the internet into older people's everyday lives needs to be studied as embedding into an age and gender-shaped context. Age-gender-technology relations, which suggest that men and younger people are better internet users than women and older people, are an important context for older people's internet use. Individuals occupy different positions in terms of the intersections of gender and age. An understanding of both social inequalities as effective in terms of structure, symbolism and identity allows us to better study the

nuances of mutual shaping processes. Gender and age are then not only a matter of gender and age identity, but processes that are shaped on these different levels.

I argue that domestication theory could be enriched by taking different dimensions of gender and age more into account. Internet use experiences are the result of the interplay of structure, symbolism and identity. In the appropriation phase, previous experiences with computers which have an impact on decisions to acquire a computer, are shaped by gender structure in terms of the labour market. Similarly, the experience that adult children are more likely to be in contact with newer technology, and can therefore assist their parents in terms of technology use, is related to age structure and the labour market, provided that employment is an important factor in learning new technologies. The objectification phase shows that symbolic associations and again, gendered division of labour within the household, are important for the shaping of spaces in the home. Gender identity, and a subject position as a less-competent internet user, who should not overuse another family member's computer, is another example of the objectification phase. Age structure is visible in the positioning of computers in rooms which were previously inhabited by adult children. Gender structure and the division of labour can contribute to differences in terms of women's and men's computer use as more and less impacting on other members of the household. Older men's time-intensive ICT use during the day can be related to associations between masculinity and technology, and the possible associations between computer use and male, paid, work-like activities and related identities, rather than unpaid housework done by women in the home. The critique of the isolating aspects of computer use for leisure could be similarly related to this division. In terms of conversion, women's use of the computer for family display is an aspect of gender identity. The reluctance to use web 2.0 by older people can be linked to symbolic associations between age and technology, as some do not expect anyone who is older and who might be of interest to them, to use web 2.0. The following chapter will discuss gender and age in the use of the internet for different activities, and in relation to different forms of social connectedness.

Chapter 6: Internet use and forms of social connectedness

This chapter focuses in more detail on specific uses, and examines how the internet is utilised to pursue diverse activities, the theme of the second research question. I argue that the domestication of the internet is an integration of technology into a context of everyday life which is shaped by gender and age. Therefore, an analysis of more **specific uses**, can explore their significance for understanding the links between technology use and older people's everyday lives. The chapter then explores the juxtaposition of older people as more isolated and the internet as a means to connect to social networks, to examine the potential of the internet to facilitate forms of social connectedness, the focus of the third research question. First, the internet is discussed as a means to connect older people to **social networks**, moving from an analysis of internet use within households to its quality as a link between them (Silverstone *et al*., 1992). Following this, I discuss different aspects of older people's personal lives which are strengthened through internet use. I argue that in terms of internet use, older people are not merely recipients of social support, but that they also contribute to social networks. For some, internet use is also important in terms of facilitating **feelings of connectedness**. I demonstrate how the context of traditional age-gender-technology relations is significant for understanding the use of the internet to pursue different activities, as well as its potential for facilitating forms of social connectedness.

6.1. Internet use: integrating the internet into older people's everyday lives

This section describes into which everyday-life activities the internet is integrated. This demonstrates how age shapes internet use, for example in terms of the importance of relationships with younger people for web 2.0 use. First, participants are categorised into five different groups to demonstrate the range of experiences in terms of breadth and time intensity of use. This also highlights how gender shapes the use of the internet, since only women use the computer exclusively outside their homes, or express a critical (distance towards technology in general. Men who use the internet for varied activities also use web 2.0 applications. This suggests that the men in the sample either used the internet only for selected activities and limited time, or also accessed web 2.0 applications. The use of the women in the sample

varied more, since some only used it outside the house, some were critical of technology, and not all who used it for varied activities also used web 2.0.

Categorising interviewees into different groups in terms of their skills and uses of the internet provides a number of challenges – which aspects of their computer use should be chosen as most significant to create one user group rather than another? This is especially difficult since my study aims to understand the complexity of domestication and use, and focuses on the broad experiences of users. Although the categorisation can lead to oversimplifying the complexity of experiences of internet use, I have grouped users for the purpose of giving readers a better overview of the differences within the sample. These groups are mainly defined through the variety of internet applications the interviewees used, and the time intensity of use.

	Group 1: Non-domestic users	**Group 2: Critical technology users**	**Group 3: Selective users**	**Group 4: Traditional web users**	**Group 5: Web 2.0 users**
	Computer not used at home anymore, but in the library	Use for various activities, but critical distance towards technology in general	Use of the internet for selected activities and limited time, e.g. mainly email, not everyday	Use for various activities, but no use of web 2.0 applications	Use for various activities and use of web 2.0 applications
Women	Martha, Cathrin	Susan, Nora	Dorothy, Barbara, Anne, Mary	Tamara, Monica, Lisa, Claire, Harriet	Louise, Cynthia, Therese, Amanda, Iris
Men			Boris, Sven, Norman, Ed, Fred, Jack, Steven		Martin, Daniel, Paul, Peter, John, Lars, Charles, Kevin

Table 2: Different user groups (computer use activities)

As research on the digital divide (e.g. van Dijck, 2005) has argued, analyses of internet use should not simply distinguish between “users” and “non-users”. Instead, internet, and similarly web 2.0 use, need to be approached as a continuum. This not only takes the nuances between different users into account, it can also

conceptualise users' biographies in which former users might become non-users in a more coherent way (Wyatt *et al*., 2002). The adoption of different aspects of the internet is intertwined with the learning of skills linked to specific internet applications. However, domestication theory highlights that use and non-use of specific applications are not only a question of skills, but of more complex moral economies of households, into which technologies are domesticated, and through which those applications attain different meanings. Adopting an approach which considers domestication processes therefore offers a valuable contribution to the study of internet use, highlighting the social construction of technology in its analysis of the moral economy of the household. Some ways of using the internet might be considered very valuable, giving an impetus for learning the necessary skills, while other uses might be avoided, despite existing skills, because they are not considered to be worthwhile or desirable.

6.1.1. Internet use

6.1.1.1. Email

Ward (2005), deploying a domestication perspective for examining the use of the internet in different families, argues that it changes communication with family members, particularly with the wider family. It becomes a new means of contacting family members, including, for example, the possibility of exchanging pictures. While web 2.0 applications are only used by a selected group of interviewees, all participants, except one, irrespective of how frequently they use the internet, use email to communicate and receive information. Email is important to stay in contact with family and friends, although some interviewees maintain the view that email is too impersonal to communicate with close relations. Many also use email to foster friendships in groups, and to revitalise friendships after being out of contact. Those who are involved in paid work or voluntary work activities, also use email to communicate as part of this work. As previously discussed, checking emails at regular times provides an opportunity for structuring daily life through technology use. This role of email varies, as not all interviewees access their emails on a daily basis. One of the interviewees uses email in a similar way to how others might use web 2.0 applications, distributing content to diverse email lists. Daniel has multiple email distribution lists to which he forwards different emails he receives from other sources. Several groups receive different types of content from him. Daniel is the

only participant who uses email in this manner, curating content such as jokes for different lists on several days of the week.

> "He is linked to South Africa, another guy us linked to Canada, somebody else is linked to some friends in (place), and I am the one man who links all these blokes together. So I get a lot of funny emails in, and I send them out to everybody else, so, it comes in from that group, so, like, eliminate that group and that address, send it out to them" (Daniel, l.149) "So I do that a couple of hours a day, every day, sending out, three, four emails a day" (Daniel, l.154) "Thursday I call rude Thursday, which, I can send those jokes which you and I can read, you just say 'yeah, (..) stupid'. But it doesn't contain anything visually offensive. On Tuesday there is a very limited circulation just for adults who have said 'yeah, just send anything you want to us'." (Daniel, l.304)

Daniel's participation in several email lists, in which he is both a recipient and distributor of online content, enables him to pursue a leisurely conversation in which he is part of a network, receiving and filtering information. This type of conversation does not entail intimate one-to-one conversations, as it is communication to a wide group of people who are only connected through the fact that they have met Daniel, and because Daniel added them to the same email list (e.g. depending on their age). This could be seen as a type of communication which is encouraged through web 2.0 (Daniel curating different mailing lists every day), without using a web 2.0 technology. However, the use of email keeps the group of readers of Daniel's emails private (he knows them personally), making it impossible for anyone who does not know Daniel or another member of the mailing lists to join. Daniel is also linked to several people on different continents, which could provide him with a sense of international connectedness.

The only interviewee who does not use email is Martha, who has an email address which is administrated by her daughter. She had previously had email, but resented being included in her son's round emails with her ex-husband and his partner, which led her to give up her email address. This is likely to be related to emotional issues surrounding the definition of family and the relationship between Martha as mother and her children. She also removed the computer after one of her sons and his partner moved out of her house. Martha chose not to use email anymore to force her son to contact her personally by phone. This highlights how different uses (group emails, personal phone calls, individual emails, phone calls with more than two individuals) of different technologies are linked to emotional needs in specific social relationships.

For Martha, no longer using email at all allows her to demand the use of another technology and a different communication style with her son. However, she needs an email address to save money by receiving online instead of paper bills. Her daughter is the only person who can access this email account for her. When she wants to send somebody an email while she is visiting her sons in the US, she uses their accounts to send an email, instead of her own which she cannot access as she does not know the password. Martha's giving up of email is giving up being part of one network of communication (her son, her ex-husband, and the ex-husband's partner), and instead strengthens her connection to her daughter who manages her email account. It requires Martha's son to ring her instead of copying her into an email, ensuring that he takes time to speak to her. It is also likely that because she is retired, and possibly communicating with people who do not use email as much as younger people, this refusal to access an email account or have technology at home is easier than for someone who needs email access as part of work, or whose social contacts use email to a large extent.

The participant who has a daily leisure routine of sending emails to different mailing lists of his worldwide contacts is male, whereas the participant who is making an effort not to use email at all is female. This means that in terms of email the extreme cases in this sample follow a masculinity-technology association. The data demonstrate how for the woman who is not using email, this is linked to choices between different networks rather than only a choice to be excluded from one type of network. Furthermore, it is linked to practices of "doing family" among older people and adult children which involve communication technology, and her emotional needs as a mother to be contacted by her son separately from her ex-husband.

6.1.1.2. Main internet use activities

The most widespread uses of the internet after email were for price comparisons and shopping (27 participants), and looking up tourism information (26 interviewees). These activities were followed by the finding of information on local events and council and government websites (24 interviewees). Since the majority of interviewees were recruited through an adult education organisation, many used the internet to prepare for classes. When talking about websites which are more aimed at women than at men, two of the women mentioned their use of fashion websites (Tamara needs bigger sizes which are difficult to find in local shops, and

Monica buys underwear for herself and her husband online). With the exception of a website which gives advice on insurance, most interviewees stated that they did not use any website which is more aimed at older people. This has to be viewed in the context of age-technology relations. It demonstrates how the experience of the internet as a "younger person's medium" is also reflected in perceptions of the intended audiences of different websites (see also chapter 7). Depending on the positioning of individuals in terms of age identities, this can discourage them or encourage them to explore it further. It also highlights the significance of symbolic associations, since all participants were themselves internet users, and therefore all had counter-examples of at least their own actual use, which could have an impact on how they viewed different websites. This also relates to wider questions of the social construction of ageing, which might involve conceptualisations of older people as not fulfilling the "norm" of youth in terms of the intended technology users. The perception of the internet as a medium for younger people also means that it is unlikely to be understood as a central element of the experience of later life. In contrast to other participants, Amanda, a former care home inspector, views all the websites she uses as aimed at older people, as they are more "serious" than websites for younger people.

Roderick (2008) found that in the US internet use for leisure purposes increases with age, since those who are 30–49 often use it more for this those under 30. However, this trend stops at the age of 50, with those who are 50 years and older using the internet less for leisure activities. Despite the comparatively lower significance of the internet for older people's leisure suggested by Roderick, many interviewees pursued leisure activities when using the internet. Many interviewees play games, such as Solitaire or Freecell which are installed on MS Windows computers by default. Nora, a former medical receptionist, and Cynthia, a former occupational therapist, both play games during the day. Cynthia plays together with friends who have moved away. Lars is the only interviewee who plays Massively Multiplayer Online Role-playing Games (MMORPGs) such as World of Warcraft.

> "I used to play World of Warcraft a lot right until last Saturday. And then I decided I was getting bored with it after six years. So I am sort of giving it a rest at the moment. But that I would think of all computer use, once upon a time, that would be the most, because I would play that, until you dragged me off, basically. I'd be playing that until two in the morning and I'd start at six. .. Playing six hours solid almost every day. probably every day. So it was very disrupt, very destructive I think, sort of thing to do." (Lars, l.114)

Lars used to play this game together with his son who works in another country. World of Warcraft allows players to chat with each other while they are playing. Lars, who also perceives women as using ICTs too much, implicitly devaluing the emotional and care work which this use could include, nevertheless used to spend many hours communicating with his son within a game environment. This suggests that using an instant messaging application in an online war game might be an appropriately "masculine" way to remain close to his son. Furthermore, this example of communication and shared leisure time between the father and the son included a game which focuses on fighting a war, which is traditionally connoted as masculine.

Another example of a leisure activity pursued with computers by many participants is genealogy research. John described the enjoyment he experiences when doing genealogy research, which he calls "digging" for information.

> "I love this detective work. It is what I do best. You got a, you get a hunch of something, and then you explore that hunch. And make deductions and so on and so on, until you finally, and if you think you are on the right track, you'll go on digging, you might take all day over this, till you track it down. But, obviously, you can't keep doing that every day, you'd go mad. You know, it is something you do, you return to, (..) you know, return to, once a month or something like that, and you have a grand, a grand digging about once a month or something like that. Or if, Genetree United is very good, they keep sending you things, they keep sending you leads, or some things like that." (John, l.492)

Many interviewees use the internet to pursue genealogy activities and work on assembling their family trees, which appears to be an age-related leisure activity. While for some their genealogy practices are oriented towards meeting new family members, others have never met anyone and research their ancestors going back several hundreds of years. Public libraries are especially important for genealogy searches because they offer free access to genealogy websites. For Anne, a retired special needs teacher, genealogy is her main leisure activity.

With the exception of communication, the uses that were most widespread were linked to consumption facilitated by the internet. Holiday travel, playing games and genealogy are leisure activities, which highlights how older people integrate the internet in their leisure lives. Additionally, playing games was also linked to "doing family". Finally, the analysis also demonstrates the differences between gender and age in terms of interviewees' perceptions, shaping the internet into websites with male/female and older/younger intended audiences. While some could think of websites that were particularly for women (shopping for clothes) or men (car racing, betting on horse races), most interviewees struggled to identify websites they used which were aimed at older people.

6.1.2. Web 2.0 use

Web 2.0 is usually studied from a new media perspective (e.g. Naeser, 2008), which does not analyse it as technology in everyday life. Instead, these studies tend to focus on the analysis of online content (e.g. Carstensen, 2009; van Doorn, 2010). A sociological analysis of the integration of web 2.0 as technology in everyday life can demonstrate how its use is shaped by social inequalities in domestication processes. My data demonstrate that web 2.0 use is particularly important for maintaining personal relations. Contact with younger people and especially relationships with younger family members were therefore crucial for the use of web 2.0, which was viewed as a means of staying in contact with younger family members. Current research on web 2.0 conceptualises users as decontextualised individuals, because of the lack of research on its domestication. My study highlights the importance of family relations for understanding older people's web 2.0 use. Younger family members, such as adult children, had often recommended the use of a specific application to interviewees. Many participants opened accounts on web 2.0 applications because they were already used by younger people they knew. Facebook was, for example, used to access photographs of grandchildren. Because web 2.0 applications are often used to stay in touch with younger family members via their preferred communication technology, they retain their character of being a younger person's technology. The fact that older people also use them does not appear to challenge the symbolic association between younger people and this technology.

It is important to analyse web 2.0 not only in terms of the active production of content, but in terms of the consumption of content which has been created by

others. As Jones *et al*. (2008) argue, the consumption of web 2.0 exceeds the group of people who actively publish content or communicate through web 2.0 applications. Reading entries on somebody's Facebook account, or reading a blog post, is an important aspect of the phenomenon of web 2.0, although it does not necessarily lead to the production of content. Interviewees were therefore asked about their use of web 2.0 in terms of both active content production, and consumption of content through reading, listening to, and watching online content that others had produced. Since older people are traditionally positioned as "atypical users" of new technology in age-technology relations, they might use web 2.0 to consume content rather than to create it.

6.1.2.1. Social networking sites

Younger people use social networking sites more than older people (Dutton and Blank, 2011). Students visit social networking sites most often, while employed users access them less and retired users least often, and are also least likely to post content. Facebook is the SNS which is used more than any other in my sample. However, some interviewees had used Friends Reunited in the past, one had used MySpace, and one currently uses Ning. Those who do use Facebook use it most often to communicate with children who do not live at home anymore, or to be in contact with grandchildren and other younger family members. Some interviewees preferred not to use any SNSs since they view them as a means of communicating with "people you don't know", which they are not interested in. Others found that online communication is wasted time (Steven, former local government employee), and face-to-face contact is more valuable, or that the content which is posted on SNSs is too mundane to be interesting. Harriet suggested that her everyday life is too mundane to share it with "everybody" online, and she prefers to talk to her friends about it instead.

> "Why would I want to tell everybody 'I just cooked the dinner'? It is not useful. The dinner, I've been doing it for fifty years. No, I can't be bothered with that."(Harriet, l.210) "I can't be bothered. Why should I? Why should I want to read about somebody else's day in a life.(.) I know my friends, my family, yes, we talk to each other." (Harriet, l.332)

Despite the reluctance of many older people to use Facebook, some do now use SNSs after being encouraged to do so by their children. Barbara sends private messages to her niece.

> “My daughter persuaded me to go 'Mother, you want to be on Facebook'. I did, I sent a message, it was my niece’s birthday last week, I sent her a message 'Happy birthday', I have another one to do this week, but that is all I use it for, really. I don't write all these silly things. People like, I don't really write about my life on it, that I'm being so and so, I don't really do that. I send somebody a message, if I see something they've done. … I have a niece, sometimes, she does a lot of running, congratulations on this and that.” (Barbara, l.142)

Some use Facebook to stay in contact with friends and family in the UK and in other countries. Kevin, for example, a retired local government worker, accesses it to look at pictures of his grandchildren, who live in another town in the UK.

> “I don't use it very much. I got it mainly so I could see pictures of my grandchildren which are on there, and so on. I occasionally write something, but I am not, I don't do a lot of writing. But I do a lot of reading what other people have written. And I am all surprised how many people write and say ‘can I be your Facebook friend?’” (Kevin, l.133)

Some interviewees also used Friends Reunited to get in touch with former friends. Friends Reunited was, however, often only used to contact others, rather than to communicate for a longer period of time. Interviewees used email to stay in contact once they had found someone on Friends Reunited. Mary, a former senior lecturer, is exceptional in that she was not encouraged by younger members of her family to use Facebook. Her son, who is currently at university, spends time in other countries without keeping in contact with her. She therefore signed up to Facebook to “keep track” of him and to stay informed about what he is doing. SNSs enabled Mary to get in contact with friends, and to receive information from her son that she would not otherwise get.

> “Friends reunited, I have used that for a few years, not very often, but I contacted some old school friends, whom I haven't seen since 1966. And I actually met up with both of them. “ (Mary, l.273)

Her son communicates with others on Facebook and Mary uses this, and the fact that he did not refuse to be connected to her on Facebook to “look after” him. Although the son does not directly communicate with Mary, she is nevertheless receiving updates via his communication with others.

> "He is having a year off this year. But in summer, he went to (place) in (country), to take part in a turtle conservation project, six weeks, now he did that the last year, and we totally lost contact with him. So, this year, just before he went, I joined Facebook. Both him and his brother were absolutely horrified that mother was on Facebook. But, I did manage to keep my eye on him a bit better. Because he was, you know, writing on Facebook because he can do it through his mobile. And afterward (..) we had to say he is not doing that again because it has cost us a fortune. But at least I knew where he was and what he was up to. And he was putting pictures up on Facebook, which was quite nice. Because last year, the first year he did that, I don't think I saw the photos. You know, he just didn't show us them. But I kept, I kept track of him." (Mary, l.203)

This use of Facebook is atypical, as most interviewees in the sample, did not use Facebook to stay informed of what their children were doing, even if they were students. In most cases in which older people were linked as "friends" to their children's accounts on Facebook, this was encouraged by the latter. As will be discussed later on, the combination of different types of contacts on Facebook profiles creates new situations for negotiating "acceptable" SNS use. This is also related to privacy, since this leads to new insights by older people into younger people's online communication.

6.1.2.2. Blogs

While the majority of interviewees do not read any blogs, a subgroup of them disapprove of vlogs (online videos) since they associate them with a lack of security or with abuse, specifically child abuse. Only one interviewee reads a large number of blogs without knowing the blog authors. His son finds those blogs for him, which are usually to do with one of his hobbies, such as cars, old machinery or architecture. Most of those who only read blogs, read those written by people they know personally. Interviewees read blogs by children, a cousin's daughter, a best friend, and a former acquaintance. Martin always visits his daughter's blog whenever he uses the computer. She lives in another part of the UK and works as a book author and designer. For her work she maintains a blog and a mailing list, which Martin reads. Martin's use of the computer centres around his relationship with his daughter, not only in terms of reading her blog, but also in terms of the location of the computer, since it is sited in the same room as a large dolls house his daughter had designed for him.

> "I read that, every time I should think I go on the computer. Because she is, she got something on all, she is doing something on, all the time, virtually. Well, it is always telling you about the things that she is going to do, isn't it?" (Martin, l.470)

Two of the interviewees had been blogging in the past but have now stopped. One was encouraged by her children to write a blog, but found that blogging was wasted time, as no one read what she wrote. The second interviewee had maintained a MySpace profile on which he blogged, but later changed to Facebook, as he did not like MySpace. Of those who currently blog, one does this on a website linked to a research project in which he is employed, and another on a website about his drumming group. Older people may be reluctant to seek out or write blogs since they might feel that no-one of their age uses these applications. However, personal relations with individuals who blog can lead to practices of regularly accessing blogs. Only two of the interviewees currently blog and both have previously had computer training and are in the male "younger older" group.

Most interviewees were not interested in blogs written by individuals they did not personally know. They appeared to feel that they did not have enough in common with people they did not already know, to follow their writing in a new format. Amanda, who started to blog and write about ideas which she would usually share with her family online, found that she missed direct feedback, which she would probably receive from family members in conversations. While for Amanda the response, or the knowledge that it was family members who were listening, was important, her children thought that she could also find additional listeners or readers online. Additional skills in publicising a blog and keeping track of website views could have possibly encouraged Amanda to continue to blog.

> "You can probably tell, I am a person with some fairly strong views. And I am quite happy to share my views with anybody who wants to hear them! My children thought that it was a shame that it was just restricted to the family. That I should go out and tell the world what I thought about various things that were happening at the time, or generally. So I did try that, and I quite enjoyed it, it got a lot of stuff off my chest, as we would say. But, I don't think anybody would want to read it! And then I thought 'well really, this is a sort of a bit of a waste of time!' just sort of chipping this information out, my views into the ether so to speak, I don't know, this is a bit silly really, I could be doing something better with my time!" (Amanda, l.249)

6.1.2.3. Use of Youtube and Twitter

As discussed above, web 2.0 applications are often studied from a new media perspective, neglecting specific experiences of individual users. A sociological analysis can complement these studies with an examination of the processes that integrate these applications into everyday life. Interviewees also occasionally used other web 2.0 applications, such as Youtube. Two participants had previously set up Twitter accounts but found them of little use. One interviewee is using a Twitter account to collect web content related to his studies. Interviewees encounter web 2.0 aspects on the websites of traditional mass media (news) or on shopping-related websites in the form of comments. Although participation in discourse is often discussed as an advantage of web 2.0, many interviewees avoid reading comments as they find that they are often offensive. This could also be linked to different potential communication partners older people encounter on web 2.0 applications compared to face-to-face communication in their everyday lives, and the need to learn to identify spaces in which they are more comfortable communicating.

> "And then you get people making comments, and some of the comments are absolutely foul. And then I have noticed that on yahoo, because I go on there, they always have comments on the news items. And they are, absolutely, you think people should be locked up. They are that antisocial. It is like a gang of foulmouth sociopaths, are the sort of people that make comments on things.... I don't mix with people like that, in real life, so why would I spend my time, you know, have my entertainment ruined by people that I just don't like the sound of at all. You know, racist, sort of, very childish, outspoken, shocking sort of stuff they come up with." (Lars, l.205)

Age-technology relations can help us understand the way in which many interviewees related to web 2.0. Those who used Facebook often used it to communicate with younger family members. Subsequently, it retained its association as a younger person's medium despite it being also used by older people. These relationships also motivated older people to learn to use SNSs. Consuming blogs (most often written by people participants knew personally) and writing blogs (only a small subgroup) was rare.

6.1.2.4. Privacy in web 2.0 use

Research on online privacy rarely analyses privacy as an aspect of domestication processes or individual user experiences. Instead, privacy is discussed as endangered through the development of technology which can be utilised for online surveillance (Andrejevic, 2005; Albrechtslund, 2008), or in terms of surveys on attitudes towards privacy, or preferences for privacy settings, on SNSs (Lewis, 2008). The use of web 2.0 (and particularly SNSs) by different generations, can create a situation which leads to a renegotiation of privacy. The use of Facebook by several generations can lead to disagreements and the need for such renegotiation, but some interviewees do not "befriend" their children so as not to infringe on the children's privacy, and others do not sign up to Facebook at all. Again, Facebook is seen as the younger generation's medium. Monica, for example, emphasised that she does not know how she could find the time to use Facebook.

> "I tend to think of it as a young person's thing. I don't know. And I don't really want to be on my daughter's Facebook. Because you know, I think, I am their mum, they don't necessarily want their mum on, do they really, on their Facebook page, you know. There is a limit there. So, no, I wouldn't have time, I don't know how people have time for it." (Monica, l.182)

Differences in how SNSs are perceived, whether they are adult children's spaces, or a medium of choice for contact for all, have an impact on older people's use of them. Kevin feels that he knows too much about his son and daughter-in-law's life after having signed up to Facebook. He is reluctant to use it, as he feels that it is difficult to control who can read what he writes on Facebook.

> "I signed up because my daughter-in-law said 'you want to sign up to Facebook' so I signed up. And now I get sent all these things which my son and daughter in law do, which I am sure they don't want me to know about, but it is all on Facebook. That was the reason why I did it. It wouldn't be my, it wouldn't be my normal way of communicating. Because I am never quite sure, when you write something, how many other people can see it. And whether you want everyone else to see it, and so on." (Kevin, l.193)

Gender identity also plays a role in the negotiations of internet use among family members, as several women disapproved of the pictures which younger women in the family posted online. Older women were often shocked by younger people's use of Facebook, feeling that some photos were inappropriate. Skeggs (1997) argued that links between ideas on respectability and femininity are part of the performance of working-class respectability. Older women in this study expressed their

astonishment and shock in relation to the self-presentation of younger female family members (granddaughter, niece) on Facebook, suggesting that they objected to these presentations and expected these younger women to present what they understood as a more respectable type of femininity.

Mary disliked the photos of her niece and her son she saw on Facebook. Parents looking at children's photos expressed concern at the content which is published. Facebook enabled them to access communication between their children and, for example, the children's friends, that they did not have access to before. For Mary, the pictures of her son were "not nice", and the photo of her niece was perceived by her as almost "advertising as a prostitute", making her niece vulnerable to criminals who could contact younger people online. She felt that the photos were too sexualised.

> "And my niece is on Facebook. And she is a very, very pretty girl. And she has put a few photos on. And some of them, she looks quite tarty, and you think 'you are giving the wrong impression there' you know, you are, sort of, she, she is not advertising as a prostitute. But, you know, it almost looks like from the photos that she has put on. And I think that is bad. You know, and they talk about, you know, people, these strange people contacting young, criminals and that sort of thing." (Mary, l.475)

Like Mary, Amanda is "horrified" by the pictures of her granddaughter online. She also feels that the use of social networking sites is dangerous to younger people as their friendships change more frequently.

> "My granddaughter who is 13 is on Facebook, and I am horrified at the stuff she puts on Facebook. .. Oh yeah, well, I can access it, and I am her friend. She made a mistake there, made a mistake there, but there you go." (Amanda, l.62)

> "And I think it is, particularly for the girls, it is very dangerous. I mean, there is pictures of my granddaughter and her friend that horrify me." (Amanda, l.166)

Web 2.0 use by several generations creates a new situation in terms of technology use in families, which is under researched. The inclusion of older people in younger family members' online communication makes it necessary to renegotiate boundaries, which is often linked to unease on both sides. The nature of the technology makes previously private peer exchanges between young people visible to older family members, who may have preferred not to see them.

Privacy was also important for general internet use. One interviewee lived in a household in which internet use was embedded in a spatial arrangement which reduced privacy,[28] possibly to make it harder to access pornography. Another example of privacy needs which is also related to negotiations within a family is the experience of Amanda, who disagreed with the publishing of family information online by another family member. For John, privacy was a luxury, since his drumming group could not afford to use a protected website. This highlights the largely neglected theme of user experience regarding privacy. The domestication perspective with its focus on everyday technology use, can contribute to a better understanding of the experience of privacy and surveillance.

Age-technology relations are important for domestication processes in which reduced use of webcams and SNSs by older people is explained with age differences and their need for more privacy. Negotiation is also necessary with distant family members who are found through family history research, since ideas about what should remain private and what should be published online might diverge. This relates also to participation in publicly accessible conversations, and self-presentation online. Members of the same family need to negotiate what information about that family can be published online. While, for example, TV is domesticated as an ICT in the household, publicly accessible conversations move the domestication process out of a single household. Simultaneously to the embedding of the technology in the household, what is published on Facebook is also made accessible to external individuals. If these individuals are members of the extended family, this can create conflicts related to the fourth phase of the domestication process, namely conversion. In this phase, the self-presentation of individual members and the family as a whole to the public becomes particularly important. Amanda found that relatives publishing family information online without asking, left her with a lack of control over the presentation of her family.

> "But I was a bit horrified, because all of a sudden, I turned on an internet site, and happened to google in a family name. And a lot of the information that I had sent her about our family came bouncing up. And she has put it, her family tree on the internet. She didn't ask me to do it or anything else. So I was a little bit less than happy with that. Because an awful lot of information that gets put on the internet A can be wrong, which is one thing, and B, can be private!" (Amanda, l.135)

[28]In this household, which included the interviewee and his wife a "rule" existed that the door had to be left open when using the internet, so others could see any online activities.

6.2. Internet use and connectedness

Following the discussion of the use of the internet for different activities, the second part of this chapter explores older people's internet use in relation to social connectedness, both in terms of being connected to social networks and through feelings of connectedness. Social connectedness is relevant for domestication processes since ICTs provide a "connection" to the outside of the household. It impacts on ICT use as an individual or collective activity, and the resources available for computer use in terms of getting help from, and providing support to, others. An analysis of forms of social connectedness can help us to explore age-technology relations.

Age-technology relations have been studied less than gender-technology relations. It is necessary to explore the limits of traditional age-technology relations in terms of representing the experiences of older women and men. This allows us to theorise age-technology relations further (Joyce and Mamo, 2006). Similar to Bergman and van Zoonen's (1999) call to also highlight positive experiences of women with the internet, Joyce and Mamo urge that the diversity of older people's experiences with technology be studied, rather than only their exclusion from access. In this chapter, I challenge the idea that older people are only recipients of support in terms of computer use. This chapter also explores age-gender-technology relations with a focus on feelings of connectedness through internet use. This relates to the experience of the internet as "reducing" loneliness and as connecting to "modern life", and therefore being particularly beneficial for older people.

Equally, the data demonstrate examples of participants maintaining a critical distance towards technology in general, as well as them experiencing connectedness as irritating (e.g. in terms of mobile phones in public places). Some also viewed online communication as a particularly impersonal way of communicating and therefore not very compatible with social connectedness. The analysis demonstrates the diversity of older people's experiences, the support of social connectedness through internet use, as well as experiences which did not link internet use with a desirable type of social connectedness.

The advantage of the internet is often associated with its potential to connect individuals to social networks (Hampton *et al*., 2011). Negative images of ageing portray elders as more isolated than younger people (Victor *et al*., 2009; Shiovitz-

Ezra and Ayalon, 2012). Similarly, traditional age-technology relations position older people as distant (and sometimes non-users) from new, connecting technologies (Richardson *et al*., 2005). I argue that in contrast to existing studies on older people's internet use (e.g. McMillan, 2008), it is necessary to explore the social construction of age which impacts on internet use. This proposes an alternative to research which views older people's technology use as necessarily problematic.

Sum *et al*.'s (2008) quantitative study which analysed loneliness from a psychological perspective, aimed to determine whether it decreases through internet use. They found that online contact with previously unknown individuals is associated with higher levels of loneliness rather than decreasing loneliness. As my study suggests, many older people use the internet intensively to communicate with family members. Therefore, its use might enable those who have family members they can communicate with to be in touch more, while those who do not have the possibility for this type of communication find it more difficult to use the internet and might also feel more lonely, as they do not have these communication partners either off- or online.

Allen (2010) argued that quantitative surveys that aim to measure the breadth and frequency of different internet use activities fail to understand the meaning of these. Instead, he analysed internet use through the experience of connectivity, investigating different functions the internet has in everyday life (e.g. self-presentation) in a quantitative survey. In his sample, drawn from users of two different Australian Internet Service Providers, Allen found three different dimensions of connectivity: (1) "collaboration, communication, and combination", (2) "knowledge in action" and (3) "self-presentation and exploration" (p. 360). Some individuals experienced all of these, (1) and (2) were more common than (3), and those who experienced (3) were likely to also experience the other two dimensions. Connectivity was most important for those younger than 35, and least important for individuals who were between 45 and 64 years old. Individuals who were 65 years and over, valued connectivity more than those who were 45–64 years old. Although Allen highlighted different types of connectivity and associated them with different age groups, I would argue that the meaning of connectivity can be better explored with a qualitative approach. An analysis of age-technology relations, which include, for example, age symbolism, demands a qualitative approach which is more compatible with the social construction of age and technology in technology use experiences and domestication processes. Richardson *et al*. (2005) utilised a qualitative approach, analysing different discourses which shape older people's

internet use. They identified three different types of connectedness among older women and men in relation to internet use: connectedness to information, connectedness to family and friends, and connectedness to the “modern world”. In the second part of this section I explore forms of social connectedness as part of domestication processes, focusing on the connection to social networks through internet use, the use of the internet in social relationships, and feelings of connectedness facilitated through internet use.

6.2.1. Computer and internet use as connection to social networks

Research on virtual reality has long considered internet use as a means to overcome loneliness (Bromberg, 1996; White *et al*., 1999; Czaja *et al*., 1993). However, this aspect of the internet as support for older people tells only a partial story. It neglects their contribution to social networks, and views relationships as one-directional relations of assistance. The following section examines the inclusion of older people not only as recipients of help, but as sources of support for others.

6.2.1.1. ”We have an expert who lives on the corner”: receiving support from others

Almost all interviewees had previously participated in courses in which they were taught how to use computers. However, particularly because of changes in computer technology, they experienced a need for continued support. Almost all were in contact with individuals who would help them. Relationships with younger generations and others of their own age were more important than material transfers, and a key source of support for learning. Harriet, who had to teach herself how to use a computer when she was working in her husband's company, receives help from a friend to “understand” the computer better. Younger family members and friends can therefore act as “warm experts” (Bakardjieva, 2005), sharing their knowledge of computers with those who know less about them. These experts are not only more skilled in using computers, but also able to connect their knowledge about computers with the needs of the person who is learning.

> "It was a very sharp learning curve, because you had to. And it would have been very nice, if you, but, you see, the, subsequently, of course, I only ever picked up things. And I would like, I am a lady who likes to know 'why' and, it's alright to what he is saying 'hit that button three times', I want to know why. And I find it very difficult to learn if I don't understand. So, just recently, I did a private deal with Andrew (Harriet's friend, SK). My husband couldn't teach me. Husbands and wives can't teach each other. So Brian is out walking one day, and Andrew nipped around, and I said 'just tell me why I am doing these things'." (Harriet, l.99)

Some interviewees receive help from sons, daughters and sons-in-law, who live elsewhere and maintain the computer when they come to visit. Others receive locally available support from neighbours. Martin, a former senior designer, relies on one of his neighbours for support in computer-related questions.

> "we have an expert who lives on the corner. … he helps, yeah, anytime. If I have a problem, I always go to him." (Martin l.276)

6.2.1.2. "If you come and show me how to upload photographs": supporting peers in their learning experiences

As the following section argues, older people are not only recipients of help, they are also teachers. This has to be qualified in two ways: it is often teaching among peers, rather than teaching younger people, and it is perhaps more likely to occur in this sample because of the recruitment of interviewees through an adult education organisation which both emphasises mutual teaching-learning processes and encourages participants to engage.

Sometimes, teaching is traded in an informal economy with friends against other services such as cooking. Louise, for example, had only used computers in a limited way while she was working as a social worker, switching them on in the morning to encourage others to use them. After attending computer courses which she sometimes found difficult (they were aimed at younger people, and focused on passing exams), Louise asked a former work colleague and friend, to teach her how to use computers. The teaching would take place in exchange for Louise cooking for her. Currently, she also teaches others how to use the computer.

> "I would ring a friend and say 'if you come and show me how to upload photographs, I will do a meal for you'. So I had one-on-one tuition. And I had one subject that I was dealing with." (Louise l.97)

Bakardjieva (2005, p. 102) found that those who supported her respondents in learning to use the internet were mostly men. However, she argued that those women among her respondents who had more control over their domestic time (not working full time, divorced or single), and mothers, also taught others. In my sample, no one worked full time. It might therefore be assumed that all of them had fewer time constraints. However, it was only men who taught computer skills in a more official capacity within the educational organisation. Women appeared to support others in less formal learning situations. This is likely to be linked to associations between masculinity and technology, and men's lesser involvement in non-employment related unpaid work, such as housework (Niemi, 2009; Coltrane, 2000; Layte, 1998). Women might have less time to teach in a more formal capacity, as well as more difficulty in positioning themselves as "experts" owing to masculine cultures of technology.

6.2.1.3. "He lets me do it. I suppose I have to pay for it": helping others

There are also different examples of support for others which go beyond computer tuition. Women often organised travel or looked up health-related information for family members. Two interviewees also booked travel tickets for their children. However, the experience of looking up health information for other family members can also be traumatic, suggesting that supporting others may come at a cost to oneself. Since more women reported this activity, this could be an extension of a gendered caring role, which women include in their everyday practices. Monica, whose husband had had eye cancer, looked up information online. She was frightened by the information she found, which suggested that her husband might have a life-threatening illness. Monica printed off the information and hid it from her husband so as not to worry him. Until her husband finally received the good news that his cancer had not spread to other organs, she stated that she had lived through one of the most difficult times of her life.

> "My husband, about eight years ago, lost an eye to eye cancer. So, obviously, it was serious. And before he had the operation and everything, I looked it up. And I looked it up, just, freely, so I go on this website, and it was all about the links, and I thought 'oh, I can't see all this', they said it was isolated, in the eye, and there was a very good prognosis. But it can spread from the eye to the liver. And I must admit, I would never do anything like it again. I couldn't throw it away, I printed it off, couldn't throw it away. Of course I couldn't show it to Lee, so I had it hidden, I was really, sort of, psychological. And until he got the results of the blood test, as to whether he had something to his liver, I think that was the most awful time I think I've lived. I've lived through some quite difficult time in my life. But I mean it was really awful, you know, two weeks. I can remember him ringing up, when I was driving back from a pupil, having seen a pupil. And I just (..) in, and took the phone call. And I just burst into tears. It hadn't gotten to his liver. And he has had the eye removed, and he has had no trouble whatsoever, you know, it has been a total success. So I would never ever look up any website other than NHS Direct or GP" (Monica, l.286)

Recipients of help were most often partners, children and friends. Some interviewees also use the internet to support their parents' generation, such as one who looked up information about receiving care for his elderly mother. Mary regularly buys her son train tickets. The son, who relies on her paying for the tickets, claims that she is more competent at buying them. This is an example in which an older woman is told that she is more competent than a younger person at using the internet for a particular activity. At first glance, it might therefore look as if this contradicts traditional age-technology relations. However, Mary's son expects his mother to pay for the tickets, suggesting that this praise for her competence is given in exchange for her supporting him financially and logistically. This could be interpreted as an example of exchanging material support (paying for the tickets) for the praise of technical competence (he says that she is better at it) within the moral economy of the household.

> "And I've been on quite a lot getting travel tickets for my eldest son, the 21 year old, who is off to (country) at the end of this week. And he always asks me to get tickets for him. He says I am better at it, but I am not sure. I think it is just practice. He lets me do it. I suppose I have to pay for it." (Mary l.54)

Most interviewees had access to a "warm expert" (Bakardjieva, 2005) who supported them in their computer use. However, participants also contributed to social networks, either in terms of teaching others how to use computers, or through diverse activities, such as online shopping or research on health issues. Some of

the men taught computer use within the educational organization, while women supported others in less formal settings. This suggests that the contribution to social networks is also embedded within traditional gender relations, with men being more associated with technology, and women looking up health information for others, which could be seen as a care activity.

6.2.2. Personal life and internet use

As a communication technology the internet is also part of social relationships, used to initiate and maintain them. This section examines in which relationships the internet is used, and which aspects of older people's personal lives are especially linked to internet use. Email is used more than web 2.0 to stay in contact with family members and communicate with friends. Some of the interviewees emphasised that they would not be in contact with some of the friends they regularly email without access to the internet, since they had previously lost contact.

6.2.2.1. “I've got family like you wouldn't believe”: older people using computers for genealogy

The internet is not only used as an additional means of communication with family members, but for genealogy activities, which are popular with many older people. Many of the interviewees spent time building their family trees. For one interviewee, Anne, a retired special needs teacher, genealogy became her main occupation. There are three different approaches to doing genealogy in relation to the use of the computer. Genealogy can be done without a computer (group 1), the computer can be used to document genealogy information (group 2), and the internet can be used to find information and in some cases share it (group 3). Some interviewees are reconstructing their family trees going back in time without using the internet, and often further than online resources would allow. Nevertheless, some of them use the computer to document their research. Others reconstruct their family history with the use of genealogy websites. As many interviewees cannot, or do not want to, pay for access to genealogy sites, they use computers at public libraries specifically to access genealogy websites. As discussed in the previous chapter, libraries are also used by those two interviewees who do not have a computer at home and by one interviewee at times when the internet connection at home is not working. With the exception of these examples, the use of library computers usually takes place in

order to access genealogy websites. These websites also allow their users to get in contact with others. Some of the interviewees are also reconstructing their wider family and eventually meet them.

Smart (2007) argued that sociological analyses of family often neglected the theorisation of the experience of family life. Also, feminist analyses of, for example, housework (Oakley, 1974) and subsequent feminist research into gender relations in families, demonstrated the impact of unequal gender relations, but missed out aspects of family life which “mattered to people”, such as family rituals. Smart also views the leisure activity of documenting family history and genealogy as constituting an activity which is meaningful but neglected by family sociology because of the over-emphasis on structure. This prevents aspects of personal life from becoming more widely studied unless they are connected to the theorisation of a wider structural transformation, such as individualisation. For participants in this study, internet use was important for “doing family”, not only because of online communication with family members, but also because of the use of the internet for genealogy. Kramer (2011) also highlighted the importance of negotiation for kinship, which is reflected in genealogy practices.

Genealogy, whether it is the reconstruction of the family in the past, or the meeting of living family members, can be a means to strengthen one's family identity. Being a family member is also an aspect of older people's identities, which maybe gains more importance after retirement. Family relationships, even if they were previously not known, provide a means of feeling connected to people which is not based on common interests, friendship or the coincidence of meeting somebody, but instead is strengthened by belonging to the same ancestors. It might in this sense give people a sense of security when meeting new family, as they are related through shared ancestors. The importance of genealogy in older people's internet use also points to the importance of family relationships for initiating/maintaining internet use. Some interviewees also met previously unknown family members through the use of genealogy websites. They became organisers of family meetings, were invited to family gatherings, or met individual members. Online family trees allow users to “do” family online, and if they want, show the tree(s) to others so that they can fill in more information. This, however, also includes evaluations of new information and making decisions on possible new additions to the family tree. The building of the online family tree is then, not only an example of the strengthening of their identity as a family member, but at the same time an activity which constructs the family; often one which is desirable to the person building the family tree. This is linked to

concerns about online security, and to the family tree as a representation of an ideal family. Carmagnat *et al*. (2008), who studied family websites which were not dedicated to genealogy research, but used to present family pictures and communicate among different members of a family, found that these websites resembled harmonious family gatherings, avoiding any conflictual discussions.

One of the interviewees in this study talked about her deliberations before accepting a particular member of her family as part of her family tree. Although Louise had previously had lodgers in her house, she now lives alone. Her son lives in the UK but not in the same place as her. She enjoys not only meeting her friends, participating in activities of the education organisation, but also extending her family through genealogy research.

Louise speculated not only whether the person who had contacted her was really related to her family (he was confirmed as a member later on), but was also concerned about becoming a crime victim (the place where he lived had a prison and she suspected that he may be a prisoner who was planning to commit a different crime). She also confided her wish to have a family without members who are in conflict with the law (the fact that he was without a residence permit in another country contributed to her hesitation to include him in her tree). Louise finally accepted the relative on her family tree, although she did not communicate or share information with him. This highlights the aspect of selective family construction within genealogy practices. Louise was not interested in documenting all the members of her family but seemed to be looking for a particular type of family. When she built her family tree, she simultaneously learned that not all unknown members of her family were those she wanted to know about.

> "I mean I found a, I don't know where he would be, somewhere down the line, he is a grandson, of this line here, … but he lives in (place) in (place), there is a great big prison there. And I thought "oh", you know, (laughs) 'is this one of the prisoners that', you know, 'is pretending'. And he, but anyway, it turned out that it wasn't, it was quite genuine actually. It took me quite a while, because I didn't give him very much information about myself, I let him give the information about him, and I wasn't too happy. In fact I think he was illegally in (place), he was married, he wasn't legally in (place). And there was a bit of a checkered past, and I thought 'mhmm, not entirely happy'. But in fact, it was quite genuine, it was a relative. And I've been, because he was on it, and he was on one of my trees, one or two of his lines, of his relatives, who live in (place), they've actually been in touch. And we've just acknowledged one another, but we haven't gone any further than that. So it is something that you can control quite well." (Louise l.456).

Interestingly, Louise was not equally hesitant in meeting other members of her family, as she regularly went to family gatherings with people she had not previously met. For Amanda, a retired care home inspector who also lives alone, contact with family members through genealogy research had also created problems. As discussed in the previous chapter, Amanda had contacted a family member through genealogy research, who had subsequently posted family information on the internet that she did not want to be publicly accessible. Amanda was unhappy about the behaviour of her new-found relative. Simultaneously, she also emphasised how she is less lonely because of having found a relative online. The use of the internet allows Louise to get in contact with people with whom she has common ancestors, and strengthens her own identity as a member of a family where she can herself control membership to some extent.

> "I've got family like you wouldn't believe, and in July I go up to (place) and meet with them. Some of them, that I didn't know existed. Some of them I had to seek out. And cousins, whom I hadn't seen since I was fifteen. And that ended up in a golden wedding, down in (place), with all the family, all my cousins there. Absolutely wonderful." (Louise, l.184)

6.2.2.2. "We are both fascinated by each other's life, because they are so different": use of the internet in friendships

Arber *et al*. (2003) emphasised the importance of marital status for material well-being and social embeddedness. They found that married men were the most advantaged group in terms of material resources and social interactions. In contrast

to this, women interacted with friends, neighbours and relatives independently of their marital status. In this study, the internet was used by both men and women to stay in contact with friends. Many interviewees also used email to stay in contact with friends. In some cases, these friendships also related to past times, and provide a continuous presence in an individual's life, accompanying them from younger to older age. Friends can also be especially important in retirement, when the previous connection with work colleagues becomes less, although some of the interviewees also stayed in touch with friends who used to be work colleagues. Some interviewees are in contact with school friends, and Monica, a retired teacher who lives with her husband, uses email to communicate with a group of friends from university. She emails individual members of the group when she is organising a meeting, otherwise she emails all friends at the same time. Once every year, Monica and her friends rent a house and go on holiday together. She confirmed that the friends are very important for her, and relates their intensive use of email to them being women. She enjoys the communication with her friends by email.

> "I have a group of friends that I was at university with, and we've all kept in touch, there were eight of us all together. And we've all kept in touch, and I think a lot of that has been reinforced, or really held by having email, because obviously we send each other group emails. So that, that particular group of friends is very important to me. We use email a lot."(Monica, l.62)

> "There are three couples, and two divorced women in this group, this group of eight. So sometimes, for instance, one of the couples are coming to stay with us next weekend, so obviously, for her, I'll say, I'll just send one to them. Say 'are we still expecting you on Saturday, lunchtime?' sort of thing 'hope everything is okay'. But usually, usually, no, it is that, the group thing. And if we're going anywhere, it is like 'ping, ping, ping' because we rent once a year, we rent a house somewhere. So, in March, April we are going to (place). So, I mean, prior to that it will be, and we have these lists, you know, who is bringing what, you know, and all the rest of it. 'We seem to have too much mayonnaise' you know, 'ping, ping'. Imagine, (..) five women, you know, I mean 'Don't forget the rubber gloves' and all this sort of thing. It is good fun, it is good fun! Yeah, oh dear." (Monica, l.534)

Not everyone uses email to organise events with friends. Daniel doesn't see many of his friends regularly, but even if he meets them after many years, he still feels as if he had seen them recently. He stays in contact with friends and acquaintances through his email distribution list (see previous chapter), distributing entertaining content on a daily basis. His role in this email distribution is less a role of communicating than sharing content with others. Two of the men in the "younger

older" group also made contact with people they grew up with and have recently become close to people they already knew when they were younger, through very regular emails. Ed, a retired human resources manager also emphasises that without internet access, he would not be in contact with them now. Similarly, John, a semi-retired "community worker", found someone through Friends Reunited, who went to the same school as him. This friend has migrated to another country, and John says that they are both interested in each other's very different lives.

> "In fact, I've tended to, not strike up many conversations through Friends Reunited. But, there is one school friend, who, I didn't know him too well when I was at school with him. I didn't know him, like, but for some reason, the person I am keeping, none of my closest friends at school, but, you gotta find who is willing to spend the time talking to you. And it just so happens, that somebody in (country), who lives a very different life than me, I don't know, we are both fascinated by each other's life, because they are so different, you see. One, you know, (country) farmer, in the wilds of (country)… He was at my school in (place). But we're in very close contact. We are contacting, almost, you know, every few days we are in contact. Sometimes we skype." (John, l.503)

John and Ed, two "younger older" men, also have very close friends who live far away, and with whom they mainly communicate online. It is possible that the women have similarly close friendships, but that for them the frequent email communication with friends did not stand out in a similar way. Men also emphasised continuing friendships from work which were maintained through SNSs or email more than women.

6.2.2.3. "We email each other all the time with news": internet use beyond friends and family

For some interviewees, the internet was also important to communicate beyond family and friends. They belonged to groups that constituted themselves either only online, or online and offline, and were very important to them. Lisa has survived breast cancer twice and is a member of a breast cancer support group. The group meets regularly, but they also communicate on a mailing list. This list keeps them in contact and helps them to support each other. She finds that those group members who do not have email are missing a lot of support. Lisa had used the computer more when she lived alone. She recently married, and has used the computer less since.

> "we email each other all the time with news, with information of what is happening, in the, say, the breast cancer world with treatments and also emails to cheer you up, very funny ones, that make you laugh, and other ones that make you "oargh", but, a way of keeping in touch, communicating." (Lisa l.334)

Paul is a member and moderator in an online forum which supports a specific software for creating digital films. In this role he replies to any questions asked by users of the software, and cleans the forum from unwanted messages such as spam. Paul accesses his computer continuously throughout the day.

> "The forum, I have been a member of it since March 2007, moderator since either late 2008 or 2009, that was when I was given that privileged status" (Paul, l.158)

6.2.3. Feelings of connectedness and the use of the internet by older people

Richardson *et al*. (2005) argued that among older people the internet is viewed as a means to be more connected. They identified three different types of connectedness: to family and friends, through information, and to "modern life". In traditional age-technology relations, connectedness is represented as atypical for older people, since they are viewed as being isolated. In this study, participants viewed the internet as very useful for communication and information, and the previous sections have demonstrated the importance of friends and family as communication partners. The breast cancer support group and the software forum were examples of further important social groups, in terms of online communication for two interviewees in the sample. Amanda also emphasised that she is in touch with more people through the internet.

A small group of interviewees, including two women who were the main internet users in their household, also viewed their internet use as connecting them more generally to "the world". Paul, a retired driving instructor who had previously worked on an industrial plant, learned to use personal computers so as "not to be left behind".

> "I wanted to increase my knowledge of understanding of PCs. Because I was still working on the mainframe systems at work, I felt I was missing out on the future. And as I wasn't gonna get the opportunity at work, I decided I would (..) at home." (Paul, l.72)

Despite the use of web 2.0 applications by many interviewees, only one regularly read a Twitter account without having a personal relationship with the author. Those

interviewees who regularly read blogs, knew the authors personally as family members or acquaintances and already knew the blog authors when they started reading them, adding another dimension to an existing relationship. None of the interviewees strongly identified with unknown blog authors (see Karlsson, 2007) and in terms of regular reading practices, online editions of newspapers were far more important for internet use than blogs.

Not all interviewees found that internet use provided them with a welcome form of connectedness. Two women stated that independence from technology was important to them, since dependence created vulnerability in the case of technological failure.

> "I don't think it is desperately important. And it worries me that when the world comes to an end, and it all, you know, if electricity goes off or something, we'll all be really stuck. We don't know how to, how to do anything."(Susan, l.249) "For instance I was at the doctors one day. And there was a wild storm one day in (place) so all the electricity went off. So all the computers went down, the phones wouldn't work. You couldn't get anybody (.), there was nothing on paper written down. So they had no idea who has got what appointment, or anything, that seemed ridiculous. I think sometimes it can cause more problems than it solves." (Susan, l.287)

In terms of experiences of connectedness, it is interesting to note that use of other ICTs, especially the use of the mobile phone in certain situations, was perceived by many interviewees, and especially women who lived alone, as irritating. Claire, a former art teacher found it annoying when men used their mobile phones in shops to receive shopping guidance from their partners – an example which shows that the demonstration of connectedness through the use of ICTs can also be negatively perceived by older people in particular situations. The internet does not assume the same importance it has for Amanda for all interviewees who live alone. Some of them do not own a computer (Martha, Cathrin), and others only used theirs to a limited extent (Sven).

Additionally, some interviewees perceived the computer as an impersonal medium. Jack, for example, does not write emails to family members, since he views email as too impersonal for close relations. Instead, he uses his mobile phone to stay in contact with his adult children. In this perspective, the computer might enable communication, but overall it is viewed as unsuitable for personal communication. Age-technology relations strongly associate ICTs with connectedness, positioning older people as isolated and less connected, however my data demonstrate a wide

diversity of experiences related to feelings of connectedness in terms of internet use. While a small group found internet use enriching of their personal lives in terms of connectedness, others did not find that ICTs had an important impact on their daily lives and some argued that dependence on technology makes them vulnerable to technology failure. Some interviewees also perceived online communication as particularly impersonal.

6.3. Conclusion: gender and age in internet use activities and connectedness

This chapter analysed gender and age in the use of the internet for different activities, and different forms of social connectedness in older people's internet use. I have argued that older people are not only recipients of support in terms of internet use, but are themselves supporting others in various ways. Conceptualising all older people as primarily recipients of support in social networks neglects the diverse nature of such support and its link to ICTs. Allen (2010) argued that the social connectedness with small or large social networks is important for the experience of connectivity. For those who were linked to small social networks, "staying in touch with people I know" was much more important. According to Allen, we need to "understand social connectedness as an interdependent relationship with Internet use rather than as a consequence of it" (p. 368), which provides a warning about approaches which view the internet as a means to connect people. Instead, the experience of online connectivity has to be viewed as an aspect of social connectedness in everyday life. This argument highlights the importance of the context, in a similar way to the methodologically different approach of domestication studies. My findings confirm the importance of existing social relations for the use of the internet and particularly web 2.0 technology, among older people.

Email is more important than web 2.0 applications for online communication within the sample. For some, the use of SNSs within families had the effect that they became better informed about more distant relatives. Most maintained previously existing relationships through online communication, and very few established new relationships through their use of the internet. Those who have family members they contact through other means often extend this to online communication, but most are unlikely to find new communication partners. This suggests that internet use operates to strengthen existing communication networks rather than reducing loneliness.

The most widespread use of the internet was email. Shopping, playing games and genealogy were also pursued online by many interviewees. Web 2.0 was often used to stay in contact with younger members of the family, and the blogs mainly read were written by those the interviewees knew personally. The use of SNSs by several generations created new challenges in terms of privacy.

Some interviewees emphasised the impersonal character of the internet, and, for instance, positioned themselves as already “having friends”, in contrast to others who used the internet extensively for communication. The shaping of the internet by age and gender, and the labelling of it as an “impersonal” technology, led to them positioning themselves at a critical distance from intensive use. Although one interviewee who lived alone stated that the internet made her feel less lonely and enabled her to stay in contact with others more easily, general relief from loneliness was viewed as a less important aspect of the internet than the opportunity to stay in contact with particular, close individuals who had moved away. A small subgroup found that internet use connected them to “modern life”. The following chapter will discuss age-technology and gender-technology relations as intersecting in older people’s experiences of internet use, and also return to the question of social connectedness.

Chapter 7: Domesticating technologies in the context of traditional age-gender-technology relations

Having discussed the relevance of age and gender for domestication processes for different internet use activities, and for forms of social connectedness in older people's internet use, this chapter explores **age-technology and gender-technology relations** in more detail. Following this, examples of the internet use experiences of participants are discussed, demonstrating the **diversity of outcomes of intersections** in the data.

I argue that age-technology relations need to be conceptualised as operating on the level of structure, symbolic associations and identity (Faulkner, 2001). Age and technology, like gender and technology, are processes (Berg, 1994), which are mutually shaping (Sundin, 1997). Studies that combine a feminist technology perspective with domestication theory and a focus on the details of mutual shaping processes, are scarce. We know about the existence of mutual shaping processes, but we know relatively little about the more specific mechanisms of these processes. Furthermore, I argue that we need a theoretical approach which can integrate technology as mutually shaping not only with gender but with other social inequalities. Although quantitative surveys, and especially digital divide research, provide evidence of the impact of social inequalities on access to the internet, these studies do not approach the topic as a question of mutual shaping processes. Instead, as I have argued, the digital divide tradition tends to neglect identity and the symbolism (Harding 1986) of social inequalities, which also shape technology use experiences.

In contrast to digital divide research, most domestication studies focus on the identity aspects of gender, failing to conceptualise it as social inequality. My study develops a research perspective that understands technology as mutually shaping with social inequalities on several levels. I argue that gender and age intersect in different ways in terms of structure, identity and symbolism (Winker and Degele, 2011; Harding, 1986) in internet use, which results in diverse internet use experiences among older women and men. This perspective can demonstrate the need to understand technology as a social process (Green, 2001), and as mutually shaping with social inequalities. Thus, older people's internet use can be examined as shaped within the context of traditional age-gender-technology relations. This means that internet use and social inequalities can be analysed along the lines of

exclusion on a structural level, as well as in terms of symbolic associations and questions of identity. This perspective avoids the shortcut which analyses gender and age only as a question of differences between women's and men's and younger and older people's use, and which neglects the mutual shaping that occurs between technology and social inequalities. Instead, my perspective situates internet use experiences within relations in which gender, age, and technology are mutually shaping processes.

7.1. Age-technology relations

My research demonstrates that age-technology relations are often perceived as much more relevant than gender-technology relations by older women and men. Age differences are viewed by interviewees as relevant not only for access to the internet, but in particular in terms of competence and breadth of use. Often, younger people's competence is perceived to be a result of growing up with technology, and connected to the competence of very small children in using computers. In contrast to this, some older people illustrate their experience of less extensive internet use, with the image of not using the internet or a computer "to its full extent". This not only implies that it is possible to use the internet "fully", but also serves to emphasise their own inability to do use it.

I propose to approach age-technology relations in a similar way to gender-technology relations, analytically separating structural and identity aspects, as well as symbolic associations between age and technology. Age-technology relations also need to be analysed in terms of a social construction of ageing, which portrays older people as atypical users of technology (Joyce and Malmo, 2006), and mainly conceptualises them as ageing bodies. The study of technology use, which is simultaneously also a bodily practice, needs to take embodied experiences into account, but at the same time avoid the reduction of older people to ageing bodies. Buse (2010) argued for an analysis of older people's use of the internet which is based on "embodied technobiographies", highlighting bodily practices. Despite the relevance of bodily experience for internet use, I argue that research on older people's use should not neglect an analysis of age-technology relations.

Traditional age-technology relations, often present in everyday discourse, conceptualise older people as ageing and less able bodies in relation to technology use. Jack, for example, described how he wanted to buy a new phone, and the shop

assistant concluded from his looks that he would not want a newer touch phone, but a phone for an older person.

> "I went into Vodaphone to upgrade my mobile phone... and the girl looked at me, she said "you won't be wanting a touch phone, you are wanting a (..) "... She just assumed that I didn't want a, I didn't look as someone who was wanting a touch phone" (Jack, l.127)

In this example, Jack was categorised as older because of his looks, and therefore as unable to use a touch phone. However, he was himself surprised by the suggestions of the salesperson. As will be discussed later on in the chapter, traditional age-technology relations, which state that new technologies are used by younger people, do not include a position for older competent technology users. It is only very rarely that research on ageing and technology use overcomes the focus on physical barriers or the neglect of symbolic associations between age and technology (see for exceptions, Richardson, 2005; Loe, 2010; Neven, 2010). If older people's internet use is studied with a focus on motivations (see for example Melenhorst *et al*., 2006), this locates age-technology relations – and specifically symbolic associations between younger people and new technology and the resulting distance between older people and new technology on a symbolic level – within the individual. It neglects mutual shaping processes and the importance of traditional age-technology relations for the integration of technology into everyday life, as well as age symbolism and age structure.

Despite the advantages of applying to age-technology relations Harding's three different levels on which gender operates, it is also important to note differences between gender and age identity. Individual gender is changed relatively rarely, whereas everyone who is older has changed their positioning in terms of age. Hurd (1999) analysed older women's strategies for avoiding being labelled as older, in describing themselves as young-old and physically active. Participants in Hurd's study were hesitant to talk about their experiences of bodily ageing, and did not refer to themselves as beautiful, highlighting the limits of their strategies of reclaiming a status as younger-older individuals. Wilinska (2012) similarly demonstrated that discourses of active ageing in older people's organisations can be incorporated into age inequality, instead of undermining ageist stereotypes. Rather than questioning stereotypes, this incorporation means that such discourses reify ageing primarily as problematic. This suggests that while gender identity and age identity are both appropriated and resisted, age identity in later life might be

more actively resisted, not only because it changes over time, but because of different histories in terms of struggles against sexism and ageism. It could be argued that until recently, sexism, and gender inequality have been widely perceived as more problematic than ageism and age inequality.

7.1.1. Structure, symbolic association and identity: age

Structurally, some older people are excluded from technology use in terms of access (no computer at home, no financial resources to acquire a computer), or access to support (teaching), and in terms of their lack of experience (if they have never encountered computers before). However, not having used the computer as part of employment, does not necessarily exclude extensive use later on. Some interviewees who use the internet for a diverse range of activities, only began using computers in retirement.

In terms of symbolic associations between internet and age, we find a stark contrast between the use of new ICTs by younger people and that of older people who are less interested in and able to use these technologies. It is not unusual for newer technology to be associated more with younger people (Ling, 2008). In terms of the internet, some also particularly associate leisure use of the computer "for entertainment" with younger people. However, this symbolic association is not confirmed by all interviewees in my study.

Turning to the analysis of age-technology relations as an aspect of identity, we find that the discourses which contrast older people with new technology, create subject positions in which they are distanced from use. For some, this might reinforce their perception of being less able to use the internet. For others, experienced technology use can also become a means to resist certain social constructions of ageing. "Active ageing" is an alternative concept to counter the negative stereotypes. This term is often advocated in educational organisations for older people (Katz and Laliberte-Rudman, 2004). More particularly, "silver surfers", are positioned in contrast to images of older people as less able than younger people to use the internet. Paradoxically, the association of silver surfers with older people, can be an impetus for learning how to use technology, if older people perceive themselves as younger, and therefore more able, than silver surfers. This new label does not recode age-technology relations, but instead increases the imperative for some individuals to learn to use technology, so as not to be labeled as less capable than

ageing silver surfers. Some interviewees, like Amanda below, started to use technology because they did not think of themselves as old enough to belong to silver surfers. This supports the findings of Wisniewska, who argued that support for the concept of "active ageing" in voluntary organisations for older people can also be effectively integrated into discourses of ageing as problematic (Wilinska, 2012).

> "I just wanted to keep up with the Joneses. I mean everybody seemed to have a computer and seemed to know what they were doing with this, and I thought I should, because I wasn't so old, I should be able to deal with this. So, rather reluctantly, went into it." (Amanda, l.113)

In this example, competent internet use is a means to resist the negative social categorisation of older people. Some interviewees emphasised the respect they had for people who were older than them, who had started to use the internet, highlighting the difficulties older people encountered in their internet use. It was only on very few occasions that interviewees talked about internet use in connection with physical ageing, with social aspects of ageing being much more prevalent in their stories.

7.1.2. Different "areas" online?

Older people's use of health websites is researched more frequently than similar use by other age groups (e.g. McMillan, 2008). Compared to research on gender and technology, studies of ageing and technology which problematise the association of older people with less competent technology use, are more recent and rare (see Joyce and Mamo, 2006). I argue that the neglect in theorising age-technology relations has resulted in the lack of research on ageing and internet use, and the primary focus on health (as declining health is an important feature of traditional age-technology relations) in existing studies. Since age-technology relations are not analysed as mutually shaping, dominant perspectives (e.g. gerontechnology) on ageing and technology conform with the reduction of ageing to physical decline.

Most interviewees stated that they did not use many websites specifically aimed at older people, as discussed in chapter 6. This lack of websites which are perceived to be aimed at older age groups, could be understood as a result of the symbolism of new media as juxtaposed to older people. This could not only impact on the perception of different types of websites, but equally inform their development. As

Sundet and Ytreberg (2009) have argued, the focus on “experimentation” in media industries can privilege developments that are aimed at younger people. The few websites of this kind used were, for example, related to insurance information for older people. This also highlights the inclusion of older people as online consumers. Only one interviewee viewed her internet use as situated completely differently from that of younger people, categorising all the websites she would use, as websites for older people.

7.1.3. Mutual shaping of age and internet use: age as shaped by technology

The proportion of internet users is higher among younger than among older people (Williams, 2008). Owing to the different levels of mutual shaping between age and technology (structure, symbolism, identity), the “new technology” of the internet is also viewed as particularly suitable for youth. Younger people then not only enjoy more access to technology, but technology is also seen as of much less use to older people (e.g. understandings of web 2.0 use as younger people’s leisure activity). Equally, aspects of new technologies, such as the sharing of information through web 2.0 applications, have become labelled as an atypical activity for older people. Most participants associated competent technology use with younger people. Only one of the interviewees could think of any younger people who did not use the internet. In terms of competence, only older men who had been using computers for many years critiqued the view of younger people as more able than older people. Others shared many examples of younger people, and especially children, being very competent in computer use. Experienced internet use is viewed as atypical for older people, and even if internet use is taken up after retirement, this experience is not enough to redefine older age as associated with competent ICT use. The shaping processes between age and technology lead to the creation of a subject position of less able use of technology for older people. Older women sometimes described themselves as incompetent because they were both women and older. While younger people use the computer more, some descriptions of their more intensive use by participants in my study also suggest that computer use is “natural” to them or “in their blood”, using metaphors which serve to minimise the social shaping of this use. If technology use is represented as “natural” for those who are younger, it comes as no surprise that it is unusual for older people. This framing of younger people’s use serves to maintain traditional age-technology relations.

7.2. Resisting traditional age-gender-technology relations

There are different options for resisting traditional age-gender-technology relations, and depending on their position, individuals have different opportunities for putting these into practice. Resistance can, for example, mean resistance to expectations of using technology in ways similar to a “modern and younger” person despite being older (Hakkarainen, 2012). It can also mean resistance to traditional age-gender-technology relations through an individual who occupies a position in which he or she can question these, through his or her own practice (including actions and speech).

At the level of identity, individuals “take a stance” and position themselves in relation to traditional age-gender-technology relations as part of domestication processes. During the interviews, I asked about differences between younger and older people’s use, and those of men and women. Participants then had to position themselves, share their views about age-gender-technology relations “in general”, and relate their own experiences to this. As discussed previously (Thornham and McFarlane, 2011a), experience in using a technology does not necessarily make symbolic associations irrelevant. This aspect of positioning oneself is also important, since the questioning of traditional age-gender-technology relations is key to effective change (see Henwood, 1993).

This positioning incorporates the practice and experiences from the social environment of the individual, suggesting that these are either representative for age-gender-technology relations, or that they are atypical for them. It also highlights how the integration of technology into everyday life involves contextualisation, and importantly also the social construction of technology through domestication processes. We need to understand age and gender as shaping everyday life and also study the contextualisation of the technology in the symbolic environment that age-gender-technology relations offer. Gender-technology relations and age-technology relations are described differently by interviewees in this study. While several interviewees struggled to find examples of women's less competent use of the internet, the majority found the description of older people as generally less able to use the internet, fitting. However, many interviewees had actually only started to use the internet later in life.

This study analyses gender and age as more than attributes of individuals, but also as elements of age-gender-technology relations. Most analyses of domestication processes focus upon patterns of use (e.g. Habib and Cornford, 2002). In contrast

to such perspectives, I argue that the social construction of gender and age and the context of age-gender-technology relations have been neglected, and need to be made visible in research on internet use. The problem of approaching gender and age primarily as women's and men's and younger and older people's use lies not only in under reporting their relevance, but also locates gender and age only at the level of the individual. This projects an essentialist view, in which gender and age have a uniform impact upon all women, men, younger and older people, in terms of shaping internet use. Conceptualising use as embedded within age-gender-technology relations allows us to study these relations as the context of use, which is relevant to all, but can lead to varying outcomes (e.g. different positions created through intersecting inequalities, and positioning oneself differently towards age-gender-technology relations as an aspect of identity), as well as existing independently of an individual's behaviour or perspective. Furthermore, the neglect of mutual shaping processes between technology, gender and age leads to an inflexible conceptualisation of the latter. Gender and age are presented as constant variables, whereas technology changes. In contrast to this approach, the study of age-gender-technology relations analyses not only technology but also gender and age as changing processes (Berg, 1994).

7.3. Gender-technology relations

Brynin (2006) has argued that feminist research claims that men are more technical than women, neglecting studies which conceptualise technology and gender as mutually shaping processes (e.g. Sundin, 1997). He has argued that owing to the gender segregated job market, men are more exposed to computers at work. It is only their different experience in the workplace which leads to women using computers less (in terms of frequency, time intensity, and increase in use over time). Since women also use computers, but less than men, Brynin argues that research should be directed towards asking how fast the gender gap in computer use will disappear, instead of researching gender-technology relations and male technological advantage in the tradition of Cockburn (1983). Brynin excludes from his analysis of gender the gendered context of technology use, such as gender segregated labour markets, and studies gender solely as women’s versus men’s use, which is similar to studying sex difference. Consequently, gender becomes fixed within individuals, who are also tested for their attitudes towards, and phobias about, computers. Symbolic associations are included, but again as attributes of

individuals. Structure is only treated as an intervening variable, since gendered job markets do not contribute to gendered computer use. The result of Brynin's analysis is the identification of men as faster adopters of innovation, and the assertion that feminist research falsely claims there is a male technological advantage. In contrast to this, feminist technology studies, and the analysis of gender-technology relations, do not fix gender within male and female individuals. Other research (e.g. Thornham and McFarlane, 2011a; Sundin, 1997) including my study, demonstrates that despite increased access to computers, gender-technology relations (understood as structure, symbolic association and identity) are highly relevant for understanding computer use. Brynin's study is not only based on a very cursory reading of feminist theory (implying that feminist theory distinguishes between women's and men's responses to technology), it also lacks an understanding of the mutual shaping of gender and technology. His analysis of gender and computer use is based on a conceptualisation of gender which views it either as sex difference, or as identity. Gender structure (e.g. the labour market) as a context of technology use and symbolic associations between gender and technology are not analysed, and gender-technology relations are ignored.

While authors from the tradition of actor network theory (ANT) (Lagesen, 2012) claim that gender-technology relations can be studied in this perspective with equal attention being paid to technology and gender, conceptualising them as mutually constituting, feminist technology studies (Cockburn, 1992) argue that ANT cannot take gender as domination into account, and neglects gender identity. Analysis of the processes of mutual shaping, especially if they are conceptualised as taking place on the levels of structure, symbolism and identity, can take the persistence of gender-technology relations more fully into account. Gender has been described as involving these three different levels by Harding (1986) in the context of feminist science studies, and more recently in feminist technology studies (Faulkner, 2001) and intersectionality studies (Winker and Degele, 2011).

I have developed a perspective, which combines feminist technology studies with domestication research, that makes a contribution to research on the question of agency within domestication processes. First, the use of feminist technology studies can demonstrate that since gender is not only gender identity, there are more limitations to individual agency than current domestication research would suggest. It is possible for an individual to question gender-technology relations as part of their own identity, and, for example, to reject a certain positioning within them. But their own use and non-use of technology still takes place in the context of traditional

symbolic associations between masculinity and technology, and structural aspects of gender-technology relations. This is highly significant for the feminist project of changing gender-technology relations. As Henwood (1993) has argued, it is necessary to both question these relations in order to change them, and to problematise what we understand as technology and as gender. I also argue that the challenging of gender-technology relations is more effective if it questions traditional gender-technology relations, rather than intervening in terms of re-defining technology or gender. While this political project needs to be a collective one to achieve change, we can also identify a similar space for change and questioning within domestication processes. My argument here is that individuals position themselves on the level of identity in relation to traditional age-gender-technology relations, which opens a space for agency and for interrogation. Collective processes of questioning gender-technology relations would aim to change all three levels, and move beyond the domestication process. However, I find it important to highlight that the process of domesticating the internet, whether this is used to initiate change or to restate traditional relations (see Silverstone, 2005), involves a space for agency through which change becomes possible. Thus, the combination of feminist technology studies with domestication theory also contributes to clarifying agency, as well as linking domestication processes to feminist technology studies and the demand for change.

The understanding of gender and technology as mutually shaping (Wajcman, 2004) also enables us to take the shaping of each by the other into account. This helps us identify aspects of the process though which gender-technology relations are maintained, since gender is also potentially a core part of personal identity, which individuals might hesitate to question (Harding, 1986; Risman, 2004). It is however, important to go beyond identifying the existence of a mutually shaping relationship, and to further examine the processes which assist in the maintenance of traditional gender-technology relations, as well as intersections with other social inequalities such as age.

I argue that an approach which combines a theorisation of traditional age-gender-technology relations as the context of technology use, with the conceptualisation of mutual shaping processes and the adoption of an intersectional perspective, allows us to explore the diversity of experiences and the significance of age and gender more fully. In terms of mutual shaping research, I support Kennedy's (2005) call for the inclusion of more than one social inequality in the analysis of internet use. It is important to study these intersections not with a focus on which inequality has the

main “effect”, but with an interest in the processes through which they intersect (Risman, 2004). I propose a multi-level (Winker and Degele, 2011) approach, which synthesises (Risman, 2004; Choo and Ferree, 2010) other approaches focused either on identity, structure or symbolism. This demonstrates the intertwining of technology and social inequality, and unpacks some of the complexity of these processes, revealing the social character of technology (Green, 2001). In this study, the focus of the analysis is on the intersecting of age and gender as social inequalities in internet use, although the three levels of structure, symbolism and identity also have to be assumed to be interacting (Winker and Degele, 2011).

7.3.1. Structure, symbolic association and identity: gender

Symbolic associations between gender and the internet can lead to the exclusion of women in different ways. The symbolic association between gender and technology suggests that technology is associated with masculinity and as Faulkner (2001) has argued, that women are excluded through male cultures of technology. Owing to the widespread use of the internet, some authors suggest that new ICTs are symbolically associated with gender differently, or that they are not shaped by gender at all. Pfeil and Roeser (forthcoming) argue that widespread and increased use loosens the connection between masculinity and the internet. However, from the point of view of the mutual shaping processes of gender and internet use, these processes have to be assumed to be extremely slow in terms of impact. Otherwise, currently increased access to diverse technologies would have already resulted in the loosening or disappearance of gender-technology relations. The “women in technology” approach has campaigned for changing gender-technology relations through the encouragement of women to join traditionally male dominated professions, but as feminist technology studies argue, despite the usefulness of such initiatives in encouraging women to use technology, it is important to problematise not only definitions of technology, but also of gender (Henwood, 1993). The symbolic association does not mean that technology is shaped by gender alone. Gender identity is equally shaped by technology (Sundin, 1997). As I demonstrate in this study, these mutual shaping processes (see also e.g. the historical redefinition of types of work such as programming as highly skilled (Henwood, 1993) and increasingly male dominated except for jobs with more routine tasks) are also changing over time. In particular, I discuss two mechanisms which serve to maintain traditional gender-technology relations, namely, (1) talk

about gendered communication practices, and (2) technology use practices. With the widespread use of the internet, it is important to take the critique of the "women in technology" approach further, and also demonstrate through the analysis of new empirical material, how the assumption that the gendered character of technology disappears through widespread use of the internet, is problematic. Because of the impact of mutual shaping processes, the inclusion of wider groups of users alone does not necessarily change gender-technology relations.

Furthermore, these mechanisms which maintain traditional relations also preserve male cultures of technologies by re-gendering communication and technology use practices. The combination of gender with age symbolically associates internet use not only with masculinity, but also with younger people. Examples of the association of masculinity and the internet in this study are the view that in terms of use, men are "more technical", or the perception that men are more confident in using the internet, despite them not actually being more competent.

> "I think men are much more confident. Whether they are able to do things better I don't know, but, and I am more practical than a lot of men. So, well, that's not true. Yes, I do think women and men use things differently. Mainly because men are more confident in using things, whether they can or not, they think they can." (Susan, l.259)

One of the interviewees, who had been working with computers for many years, also explained his experience of "losing track of time", when writing a computer program. This is an example of immersion in technology, which is supported by symbolic associations between masculinity and technology, and male "cultures of technology" (Faulkner, 2001). Kleif and Faulkner (2003) argued that men's pleasures in technology are linked to the socialisation of boys, who are encouraged to play more than girls. For male adults, technology use can provide them with the opportunity to feel powerful and a chance to play.

> "But I would spend hours trying to get this program to work, typing it, ... down in this basement totally losing track of time. And you come out of this basement wondering 'Have I been down there for five hours?' 'aaah, I didn't know'. You know, you'd miss an appointment you know, I lost the odd girlfriend that way. You know what I am talking, you just lose total track of time. And you can still do that, you can still do that now." (John, l.756)

These mechanisms of the symbolic associations between gender and internet use are particularly neglected in research that analyses gender and internet use in terms of gendered patterns, resulting in an underestimation of the persistence of gender-

technology relations. It can lead to women not only using the internet less, but also to them viewing use as a less important aspect of their identity. Some of the women state that internet use is not “entertainment” for them, or suggest that they only use the internet to support other activities, using the internet as a “tool”. Some older women also stated that they are not “idly pressing buttons”, and that their use is not enjoyment in itself. However, only two women claimed the importance of keeping a critical distance to technology. Although some female interviewees identified themselves as “not old enough” to ignore the internet, none of the men reported feeling compelled to start using the internet as part of their older male identity. This is likely to be less present because of the internet's relative newness, which makes it less essential for the identities of older men. The contrast between new technologies and older age creates a subject position for some older men in which they do not need to learn to use the internet because they are older. Interestingly, some women and men reported resisting internet use, and having viewed themselves as already too old to learn to use computers many years ago.

All participants who initially did not think that they would ever use the computer, later revised this view and became users. However, it has to be assumed that the element of self-recruitment to a study about computer use makes it less likely for someone who has stopped using a computer to volunteer. The only interviewees who had already used the internet as part of their leisure and work activities, before its more widespread use, were men who could also be described as being part of a male culture of technology. None of the women described a similar experience to John's story of losing track of time while writing a computer program. There are two different examples for atypical experiences: men who use the internet in a restricted manner, or less than their female partners, and women who use the internet extensively and more than their male partners. However, the former are not necessarily evidence for the absence of gender and internet-use shaping processes, since they view internet use as particularly related to communication, and therefore a female activity. Women who use the internet more than their partners emphasise its role as “connecting” to modern life, and as helping older people to be in touch.

7.3.2. Mutual shaping processes between gender and technology: technology shaping gender

Gender-technology relations have long been researched as processes of mutual shaping (e.g. Wajcman, 2004). However, the mechanisms that perpetuate gender-technology relations in mutual shaping processes have not been studied in relation to older people's internet use. I argue that gender is not only used as a resource of meaning in terms of technology, but similarly, technology is employed to talk about gender difference in everyday life. Mutual shaping processes are also persistent because the critique of gendered technology does not change gender-technology relations in a sustainable manner, if it is not simultaneously linked to a critique of its incorporation into gender identity. Harding (1986) highlighted that a feminist critique also questions core parts of many people's identity through its analysis of gender relations. As Risman (2004) has argued "we must remember, however, that much doing gender at the individual and interactional level gives pleasure as well as reproduces inequality" (p. 446). To understand the persistence of gender-technology relations, we have to understand the intertwining of technology with gender relations. Symbolic associations, structural aspects of gender, and questions of gender identity, are all part of these mutual shaping processes.

Older people's negotiation of internet use in daily life provides a specific example for analysing the processes of maintaining gender-technology relations. As a technology used in everyday life, the internet contributes to shaping gender identity and this becomes especially visible in examples of atypical arrangements, such as households in which women are more competent technology users than their male partners. Therese, the only person who uses the internet in her home, enjoys using it, but hesitates to evaluate as positive her competence in using technology better than her husband. She wonders whether she should have used some technologies (e.g. the computer) less, so as not to discourage him from learning to use them. Therese, who emphasised the enrichment internet use presents for her life, wondered whether her use of the computer threatened her partner's masculinity. She also described how the potential use of the internet by her husband was linked to his gender identity for her, saying that she would be worried if he looked up pictures of female shoes online.

> “the fashion ones, and obviously my jewellery ones. I'd be very concerned if Lee went onto either of those. Ahm, so, just that really....it is feminine. Women's fashion, and looking at high-heeled shoes, and jewellery, I'd be very concerned, I'd have him tested. No, he'd go on for golf, or football, or the news.” (Therese, l.331)

In another example, Cynthia uses the internet more than her husband, but emphasised the fact that he uses it for repairing things around the house. The interview with Cynthia was one of two in which interviewees asked for their partners to be present. In the interview, Cynthia stated not only that her husband was able to use the internet to repair technology in the house (e.g. the phone), but also that he was able to use the internet more capably than he claimed. This could be interpreted as an assertion which served to maintain harmony within the relationship, by assuring him of his competence. Alternatively, it could also be read as evidence of the reassuring significance of traditional gender-technology relations for Cynthia, despite her competence and frequent use of the computer, and despite the presence of the computer in her kitchen. These examples both emphasise the relevance of traditional gender-technology relations and demonstrate their persistence.

7.3.3. Mechanisms which maintain gender-technology relations

My study has identified different mechanisms in domestication processes that succeed in maintaining traditional gender-technology relations in situations in which women and men are perceived to enjoy equal access to a technology. I distinguish these examples from those in which interviewees view the internet and men as generally more symbolically associated. If an interviewee talks about “men being more technical”, I take this as an example of a more general symbolic association between the two, an association which also serves to perpetuate gender-technology relations. I argue that this is a less refined mechanism of mutual shaping than the two which I will discuss in more detail, since it associates men in general more with technology use.

The two mechanisms which I am describing as more subtle processes for maintaining gender-technology relations, are: “women and men have different ways of doing things which are relevant for technology use” and, “women gossip”. The assumption of a mutually shaping relationship between gender and technology

suggests that the perceived use of the technology also has a function in terms of gender identity. It strengthens gendered identities by associating “ways of doing things”, “communication practices”, or “internet use”, with gendered roles within a household. In this sense, it was probably no coincidence that many interviewees used their spouses’ behaviours to illustrate their argument about gender differences.

Silva (2010) has discussed technology and culture as resources for people's practices of “doing family”. I would argue that within older couples, gender can be used to define technology, and vice versa. One becomes an element in the social construction of the other. As Sundin (1997) argues, the mutual shaping of gender and technology means that we have to take gender more seriously in terms of its power to define what technology is. Harding (1986) has already alerted us to the destabilising effects of feminist analyses for gender identity, suggesting that it questions core parts of who we think we are. The persistence of traditional gender-technology relations, and the efforts interviewees make to explain technology use in relation to them being a woman or a man, has to be linked to this resource that technology offers to gender identity. Lisa, for example, found that men are “more methodological” and her partner would look something up online far longer into the night than she would, associating this with differences between women and men. She linked her practice of not persevering as long as her partner, to her identity as a woman.

7.3.3.1. Shifting gender-technology relations to use practices: gendered communication practices

The computer has also become a communication technology due to email, instant messaging and more recently web 2.0 applications, which allow users to communicate online. Therefore, the domestication of the internet also includes its use for communication. Where women and men are perceived to have equal access, it can be more difficult to argue that the internet is a masculine technology. However, its character as a communication technology, and the gendering of communication practices, provide an alternative opportunity to include the internet in traditional gender relations. While some interviewees suggested that women communicate “trivial” content,[29] others perceived that either men or women, but

[29]This perception that women use the internet to communicate more mundane content could either be related to a gendered perception of communication practices (with women empirically communicating similarly to men), or it could be related to an empirical difference between women’s

always the other gender, used the internet to contact people too often. Several interviewees viewed women's communication practices as less valuable or as "gossip". Interviewees argued that women's use was different from men's because women communicate more frequently and with more mundane content than men would.

Instead of describing the internet as a gendered technology (a masculine technology), interviewees shifted to describing gendered communication practices. My argument is that following the increased participation of women in internet use, the description of use practices as gendered contributes to maintaining gender-technology relations. Feminist research on verbal language has demonstrated that talk genres which are more associated with women than men are less valued (Cameron, 1990). Some genres such as speaking in the public domain are viewed as more male, while gossip is associated with women and less valued. Several of the participants in this study argued that women used the internet for less valuable genres of communication. Perceptions of this range from describing women as more interested in "the social side" of things (Iris, retired legal secretary), such as keeping in contact with friends, to an upfront devaluation of women's communication practices, describing women's use of ICTs as "communication of trivia".

> "Well, as I say, my observation is that women use it a lot more. I hate to say, to use the word trivia. They seem to, sometimes seem to communicate a lot more trivia than men do. Men stick to facts." (Jack, l.283)

> "And I think I am not, I don't think it is being sexist or generalising too much. I do think women tend to use them more, for more trivial reasons as well." (Lars, l.734)

However, interviewees' perceptions of communication practices sometimes also contradicted each other. Louise, for example, emphasised how her male friends would send her round letters by email, which she would not do. These emails sometimes include shocking images, such as pictures of car accidents. While she

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and men's communication practices. In the latter case, this could, for example, be a result of women doing more emotional and care work. While one of the female interviewees argued that women are more interested in social aspects of life, the men who argued that women and men communicated differently stated that women's communication practices are less valuable than men's. Without a critique of, for example, unequal distribution of emotional work and gender inequality, their different communication practices are viewed as related to them being women, and strengthen traditional gender-technology relations.

would email a friend to arrange a meeting, she would not “sit at the computer and think 'oh, who can I get in touch with', that is not me, no” (Louise, p.15 l.546) Claire similarly found that men forwarded corny jokes and racist emails, which other women would not send to her. Dorothy, a retired special needs teacher, similarly described that her husband forwards jokes to her. In contrast to this, Martin found that men use computers with a purpose, while women use it to forward emails.

> “These jokey things and all that. I don't think men would do that. I think, I think a male going on to the computer is going on for the purpose of, if you are looking for, if you are looking for either for books or DVDs, or of you are looking for, something to do with, a type of hobbies that you do, more so for a male, a man.” (Martin, l.505)

> “I don't think men would, I don't think somebody would ring, a man would ring a friend and talk to him for 40 minutes. I don't think so. I think, a woman might do that to another woman. I suppose a bloke might ring his girlfriend, but I don't think so. I don't think so, in those terms. I think men are probably, their use, they are probably more focused in what they use it for.” (Fred, l.313)

When it is untenable to talk about the internet as a technology only used by men, or a “male” technology, participants can shift to talking about technology use practices as gendered. Interviewees perceived the internet to be a technology to which women and men have equal access. The possibility of using the internet on various devices (pc, laptop, mobile phone) and in different situations (leisure and work settings), might additionally reinforce this view of the internet as especially accessible. Similarly, Pfeil and Roesler (forthcoming) argue that the varied uses of the internet make it more accessible. However, this means that these technologies have simultaneously become integrated into a gendered everyday life context. Although this embedding widens access to, and use of, the technology, the association between internet technology and gender cannot be assumed to automatically disappear as a consequence. Interviewees shift to talking about gender differences in communication practices despite the perception that there seems to be equal access to technology. Sometimes, this serves to devalue women’s use of the internet for communication practices and suggests that women would communicate mundane content, and sometimes women viewed men as being less hesitant in forwarding emails or communicating in ways that were seen as unpleasant for the recipients.

7.3.3.2. Shifting gender-technology relations to use practices: “ways of doing things”

Another pertinent example of more subtle shaping processes is “ways of doing things”, which again shifts from technology itself as gendered, to gendered technology use practices. Similarly to their perception of communication practices, interviewees had contradictory views about men’s and women's general practices of technology use. Iris, a retired legal secretary who lives with her husband, found that men are “boringly focused”, and only interested in playing games and DIY activities. In contrast to this, she viewed women as having wider interests, buying different things online and staying in contact with friends. Nora, a retired medical receptionist, found that her partner is “more methodical” in looking up information. Monica, a retired teacher, stated that men are inflexible if their initial plans do not succeed. They are unable to amend their plans, whereas women tend to find different ways to achieve what they want, but are also easily distracted. Steven found that his wife uses the internet to look up and search for more things, which is similar to their different ways of shopping. He would plan what he wants to buy beforehand, whereas she would spend time looking around in a shop.

In all of these examples, interviewees argue that women and men use the internet differently because they practice different “ways of doing things” because of their gender. Although Pfeil and Roeser (forthcoming) argue that a more widely used technology (by more people, for different purposes) leads to de-gendering of that technology, my study has developed a critique of this argument. Communication practices are not discrete from gender relations, and the assumption that broad communication-based use de-genders a technology is problematic, since communication practices are also gendered. In contrast to this filtered down approach, feminist technology studies have shown that gender and technology are in a mutual shaping relationship, that gender is part of the social construction of technology in domestication processes, and effective in terms of structure, symbolism and identity.

It is important to note that the use of the internet does not necessarily follow traditional gender-technology relations. For a smaller group of interviewees, the internet was a technology which was primarily used by women in the household. It is, however, difficult to change traditional gender-technology relations in a sustainable way through interventions on one side of a mutual shaping relationship (introduction of the internet as a new technology), since gender and technology are both processes, which undergo change.

7.4. Intersections: age, gender and technology use

One of the earliest investigations into the interplay of age and gender in terms of computer use (Barnett *et al*., 2000), found that older women and men differed in their preferences for using media and social groups for information, entertainment and leisure, which was linked to gendered social roles. Barnett *et al*. suggested further that men's use of the computer might be supported by their greater economic security and confidence with technology, while women's "culture of care" could, similarly to their adoption of the telephone, contribute to their greater use of the computer. I argue that an approach that views gender and age as intersecting and mutually shaping with technology, and a conceptualisation of gender and age as operating on different levels (structure, symbolism, identity), can more fully examine the complexity of internet use than a focus on gender roles in older people's everyday lives.

In previous sections, age-technology and gender-technology relations were discussed in terms of the different dimensions of structure, symbolic association and identity. Regarding mutual shaping processes, I have also demonstrated how the persistence of gender-technology relations is maintained through different social mechanisms, shifting from talk about gendered technology access, to gendered use practices in domestication processes. In this section I will discuss different internet use experiences as intersections of age-technology and gender-technology relations.

As discussed in chapter 4, authors in the field of intersectionality studies conceptualise the relationship between diverse inequalities differently. As Walby *et al*. (2012) argue, intersectionality should be seen as a process of mutual shaping rather than mutual constitution, acknowledging that, for example, gender is shaped by age, but not essential to it. McCall's differentiation in intra-categorial approaches (focusing on the study of the experiences of neglected social groups), anticategorical studies (focusing on the deconstruction of dominant categories) and intercategorical research (focusing on the documentation of inequality between different groups), could be used to argue that an analysis of intersectionality which views social inequalities as relevant in terms of structure, symbolic association and identity, can combine all these different approaches. The intercategorical approach (quantitative surveys on the interaction of several inequalities) would be closest to analysing structural aspects, the anticategorical approach would examine the symbolic associations through the deconstruction of dominant categories (e.g.

young, masculine identities), and the intracategorical approach would be useful for studying aspects of identity in its exploration of the experience of neglected groups (e.g. the ICT use experiences of older women). Obviously in the everyday experiences of individuals, these different aspects are not clearly separated, so it is necessary to analytically disentangle them in order to carve out the different processes which take place. The analysis of gender-technology relations within feminist technology studies can be used to argue that intersectionality studies do not have to, as McCall argues, choose between these different approaches, but can instead analyse mutual shaping processes on all three different levels.

7.4.1. "They are competent, but only within a limited range": men who have used computers for many years

Brynin (2006) argued that men are using computers more than women because they encounter them differently in the workplace. He viewed gender as shaping computer use only because men are faster in adopting technological innovations because they are differently exposed to technology at work. In contrast to Brynin's study, the analysis of intersecting gender-technology and age-technology relations demonstrates the significance of gender and age, which goes beyond exposure at work. Some older men, for example, are able to question the position of younger people as more competent in terms of technology use. The former have not only been using computers for a longer time, but their critique of the image of younger people as better technology users is also linked to symbolic associations and gender and age identity.

Some interviewees had been using computers as part of their work or leisure for many years, but although some of the women had been using them for work, it was two men in the sample who had been trained in computer programming. Some of the male interviewees, who had been in contact with computers in a leisure or work context for many years, developed a critique of traditional age-technology relations, but it was only men who were familiar with computers before retirement who seemed to be in a position in which they could challenge age-technology relations in this way. Because of to their secure position and experience as technology-using men, they could challenge the dominant association between youth and competent computer use. This is an example in which gender and age intersect in the sense that their experience and positioning as men allows them to critique dominant age-technology relations. When making this argument, they spoke about their own

experience, which included their own age and gender identity, and made claims about structural relations and the inadequacy of symbolic associations. There are of course younger and older, more and less experienced computer users, but the crucial question for age-technology relations is whether technological competence is perceived as primarily linked to belonging to a younger age group. Some older men are sceptical about this. Lars, who has been using computers for many years, found that his experience of having worked as a computer programmer fits uneasily with his new age-related identity, because of age-technology relations which position him as a computer use beginner.

> "I think it is backed up a little as well, by the idea, which I find slightly annoying, when you go to someone's, like BT World, or Waterstones, or a bookshop, and you find in the computer section, and you have a little section of books that are written for senior computer users, who are people who are over 50. I was thinking 'You don't need to say things in one syllable to me for me to understand it, you know, in regards to computers, you don't become an idiot when you are, become fifty. And besides, which, a lot of people have, who are fifty, like me, have been working in the computer industry for twenty, thirty years, so, it is a little bit patronising." (Lars, l.708)

Peter, who worked as an accountant and company secretary before he retired, argued that his adult daughters, whom he refers to as "girls", are rarely able to remember the actions which led up to encountering a problem with their computer.

> "I think younger people use it more, whether it is knowledgeable as some of the older ones, I don't know. The thing I have found, if something goes wrong, especially if my girls have been on, and you ask them what they've done, they don't know. Whereas we quite often work backwards, to see what has actually happened" (Peter, l.288)

John, a retired community worker, perceived younger people's knowledge of computers as limited because of their scant knowledge of office software. Younger people, in his view, are using the internet and word processing programs competently, but they are not as familiar as older people with "harder office software", which also seems to contain an undertone that reminds us of "harder and therefore male" technology.

> "It is, you know, they, younger people, you will find they have a limited range. They are competent, but only within a limited range. You find a lot of young people are not proficient in a number of things. Particularly, they might be alright in word processing and internet, but apart from, many other aspects, for instance spreadsheets, they don't have any particular age competence there...That is what I found. And it just depends on what you are doing. I think the average young person has a very limited set of competencies. When you are, say it is widespread, they are competent, they don't, they are not afraid of computers. But what I've noticed is that they, they use Facebook, Youtube, digital and all those other things. But the harder office software, they are not any better off, are they? I don't think they are any more competent than the old people in that respect." (John, l.931)

In contrast to Peter and John, Ed, a retired human resources manager, learned to use a computer only "as much as he needed to", and questions age-related competence of use. In contrast to those men previously discussed, Ed is not developing a critique of younger people's competence and positioning himself as immersed in technological culture. Instead, he occupies an atypical position (only being interested in computers to a limited extent), and questions not only the "technologically aware" description of younger people, but age-technology relations in general.

> "I learned as much as I needed to do the job. Whereas there were people around me who wanted to know more. Because they were interested in computers rather than the job. I always thought of it as a tool. But the, other people thought of it as a toy. So, there were always people around who could help if anything went wrong." (Ed, l.230)

> "I speak to young people who don't use it. .. I think the majority of people my age use it. And I don't think, it is about the same percentage I think as for younger people. And I know accepted wisdom is that old people find it difficult and young people, it comes easy to them. It is not my experience, really. I mean, because computers have been around for a long time. I mean, I have been using them for 30 years. .. Old people have had access to computers for a long, long time." (Ed, l.407)

7.4.2."We all know people who are mad about computers": men who learned to use computers later in life

As discussed in chapter 4, the focus on traditional gender-technology relations has been criticised for its neglect of atypical experiences. Lohan (2000), for example, argued that feminist technology studies should examine men's gender identities

more. Some men who have only started to use computers later in their lives and often after initial resistance, relate to the internet in a way which does not position them as competent users. In contrast to similar descriptions by women, these men talk about genderless “people” who are interested in computers and do not portray computer use as a typically male activity. For example, Jack, a retired GP, distanced himself from a position of intensive computer use, where computers dominate an individual's life. For some of the men, their initial resistance to learning to use computers was framed within age-technology relations. They thought that they themselves were already too old to learn computing, and only later revised this position. Age-technology relations, and their identification with becoming older, initially supported their choice not to use a computer.

> “And obviously we all know people who are mad about computers. You know, and all their life is dominated by them. They just love it.” (Jack, l.320)

Norman, a retired shift supervisor, similarly took a very critical stance towards the use of the internet for communication, as he preferred letters and phones.

> “I think that there is a tendency for some people to avoid, well, avoid is not the right word, but, to put off having personal contact with acquaintances, or friends, or something, via the telephone, or the good old fashioned written letter, by utilising a computer for either contacting people or staying in contact with people, using it as a communication exercise with friends. I am not convinced that is the right thing. Because I find that to be very negative, particularly looking at typed info.” (Norman, l.145)

These examples demonstrate how age-technology relations enable older men to delay the use of the computer. Despite their unusual positioning in terms of internet use (they are older and do use it), they do not discuss their atypical positioning as men who do not enjoy technology use. It could be argued that the symbolic association between technology and gender is so important for their gender identity (and presentation in the interview), that they prefer not to discuss non-use as atypical for men. In contrast to this, the women who do not enjoy internet use connect it with what could be described as male cultures of technology (see section 7.3.4.).

7.4.3. “That daft, you know, women in their 50s”: a woman who learned to use computers later in her life

Krekula (2007) reviewed research on the double jeopardy thesis (Dowd and Bengtson, 1978), which states that individuals who are part both of a minority group and another disadvantaged group are the object of worse prejudices and discriminations than if they only belonged to one group. Krekula argued that this thesis, which has been used in research on older women, oversimplifies the intersecting of different inequalities as it assumes that disadvantaged positions within them can be added to each other, contributing to an increasingly disadvantaged position. She argued against this assumption, highlighting research which also demonstrates that the double jeopardy is not inevitable.

My study includes experiences of “double jeopardy” as well as counter-examples. Before turning to the counter-examples, I will discuss Monica’s description of beginning to use a computer. I argue that whether intersections of gender and age create a double burden for older women’s computer use, depends on the one hand on the combination with other intersections (e.g. class could have an impact on the possibility of positioning oneself differently), and on the other, on questions of age and gender identity. Different women who occupy a similar structural position in terms of the intersecting of social inequalities, can position themselves differently in terms of age-gender-technology relations. Gender and age identity are not only the locus where a personal position regarding structure and symbolic associations is negotiated (evaluating one’s own experiences against discourses of age and gender and knowledge about structural differences). It is also where, as I will demonstrate in the next sections, the intersection of two disadvantaged positions can result in non-traditional outcomes. However, the significance of the identity aspect of age and gender also points towards the difficulties of changing traditional gender-age-technology relations, since the analysis of mutual shaping processes also questions potentially very personal and important aspects of age or gender identities (Harding, 1986; Risman, 2004).

Monica, a retired teacher, described her own position as a woman and an older person, as someone who lacks experience with email. For her, the combination of being a woman and being in her 50s, explains her initial difficulties in using email.

> "And I can remember sending my first email. And it was to my friend who lived in (place) near (place). And I actually rang her up to tell her I had sent it. And 'will you ring me back when you've got it' sort of thing, you know. That daft, you know, women in their 50s. So I can remember doing that." (Monica, l.228)

She is now using email as well as various websites on a regular basis but she still finds computer use difficult, and described "a love-hate relationship". This experience conveys the difficulties of using the computer for Monica. It contrasts starkly with the symbolic association between masculinity and technology, and analyses of men's pleasure in technology use (see Kleif and Faulkner, 2003).

> "Well, if it is over an hour, I start to get, I just hate it (..). And I hate it when it doesn't work properly. It is not necessarily, I know it is not necessarily the computer. Like, you know, it is as much me as the computer. But I get all 'oh heck with that', wait, finish what I'll be doing, and I switch it off. And I do actually talk, and it is quite nice then to actually walk out of the room and shutting the door thinking 'I've done it' and I'll say to it 'I'm not coming back to it'. So it is a bit of a love-hate relationship." (Monica, l.435)

Monica did not seem to use the internet less or have fewer skills than other older women who had contrasting experiences, although her described way of relating to the computer could hinder her from spending more time with this technology, and as such, also result in her developing fewer skills. What appeared to distinguish her experience from those described in the next section, was that age and gender intersected with different outcomes, creating a situation in which she perceived computer use to be difficult for her because she was a woman and an older person.

7.4.4. "It just gives you a world really": women who are the only computer users in multiple-person households

I argue that for age-gender-technology relations, the association of the internet with connectedness (Richardson, 2005) assumes a particular role. Age-technology relations position older people as isolated and contrast them with young people using technology which connects them to social networks. Additionally, gender-technology relations position women as symbolically less associated with technology, less interested in it, and/or less able users. Almost all interviewees argued that traditional age-technology relations could explain how older and younger people used technology, and a majority also suggested that such relations could explain particular aspects of use. Although in most households in the sample,

men used computers more than women, in the two multi-occupied households in which women used the computer more, the women emphasised the benefit of the computer in connecting them to the wider world. In structural terms of age-gender-technology relations, these women were disadvantaged not only by being older but also in terms of being women. However, their experiences of being the main computer user in their household enabled them to challenge traditional gender-technology relations to some extent. The use of the computer, and its association with connectedness, seemed to help them to avoid aspects of the positioning as an older, less connected person. These examples do not confirm the "double jeopardy" thesis. Therese emphasised how the use of the computer is particularly beneficial for an older person because it is a link to the wider world, and the women's joint experiences contrast with Monica's description of beginning to learn computers, in which her positioning as an older person and as a woman made her experience particularly difficult.

As the main internet users in the household, these women occupy atypical positions within gender-technology relations. For Therese, a designer, who spends a lot of time in her home caring for her husband and her mother (who lives around the corner in a care home), this atypical position seems to also enable a different position in terms of age-technology relations, namely "being in contact like younger people" through the use of the internet. Tamara uses the computer much more than her husband, and sees it as a means to avoid being "left behind". She taught herself the use of the computer, relying on official helplines from IT companies.

> "He is only a beginner. I feel I am quite experienced now, you know, having for some years. But he is a bit frightened of it, so, he is the, he does some...He is getting used to that, printing out, saving, and he goes on the internet. He is a bit scared of messing it up, you know, pressing all the wrong things and getting, I say 'well, you know, it doesn't matter, I'll sort it out'." (Tamara, l.38)

> "It is just an everyday life skill now. And being that sort of person, that has a lot to do with it, because I don't like to be left behind. That, I think that was the thing, that I thought that I was being left behind." (Tamara, l.276)

Therese described the computer as an important enhancement to her life.

> "I don't know how to live without a computer. Because when my computer has a problem and it goes off, I feel shut off from the rest of the world. Because you can always send information, or a hello email, and it just gives you a world really" (Therese, l.49) "I mean like I said in the beginning, if my computer goes down for some reason, or I've got a problem, I feel as though my life has gone so small, and it is in here. Well, at my age, it must be good for you, to have the internet, for it to be so mammoth, the things you've got contact" (Therese, l.351)
>
> "I'd like to get, really, you young people, you have your mobiles on all the time, and there is people getting in touch and texting and all that. I'd like to be more like that" (Therese, l.415)
>
> "I'd like to be more like that, use my mobile more. But my life is not. I am not out and about all the time. … if you want me on the phone, you can get me here, I am here." (Therese, l.421)

In a similar vein, some interviewees, such as Lisa, a retired arts teacher, or Kevin, a former local government worker, emphasised their resistance to being positioned as older. Consequently, competent internet use can also serve to identify as someone who is positioned differently from a typical older person.

Tamara and Monica, who emphasised the advantage of "connectedness", and who are the only computer users in their households, both argued that the use of the computer improves daily life. This has to be understood as an alternative outcome of the intersection of age and gender, which does not follow the double jeopardy hypothesis. Lars, Peter and John, the men who question younger people's ability to use computers better than older people, are, because of their experiences as male technology users, able to develop a critique of the image of younger people as more competent computer users. Tamara and Monica both find that computers have a positive impact for older people, but they are not in a situation to question age-technology relations in a similar way.

7.4.5. "I don't know a man that isn't knee-deep in it": women who view the internet as a "tool"

Gender-technology relations also include gender symbolism (Harding, 1986), and more particularly symbolic associations between masculinity and technology (Faulkner, 2001).[30] Henwood *et al*. (2001) explored the diverse experiences of

[30] Other disciplines research the same phenomenon from a different angle, such as psychological research on older women's computer anxiety and feelings of low self-efficacy in terms of computer use (Campbell, 2004) and women's greater anxiety and lesser computer knowledge compared to

women with technology, and the potential for 'cyborg' experiences in women's technology use. Faulkner discussed this in terms of the image of technology as masculine, and the different categorisations of different types of technology along gendered dichotomies, such as "harder" and softer" technology. These symbolic associations are persistent and reproduced despite experiences of different practices (Faulkner, 2001; Thornham and McFarlane, 2011a). Faulkner (2001) argued that within the male-dominated profession of engineering, men's pleasure in technology is important not only for their individual identities but also for their shared culture, offering them compensation for limited power in their work environment (Faulkner 2001). Men's intimacy with technology has been researched in both work and leisure settings (Kleif and Faulkner, 2003). Kleif and Faulkner (2003) argued that it is linked to the socialization of boys and girls, in which boys are allowed more time to play; subsequently adult women feel that spending time with technology is gender-inauthentic, and that they have to justify spending more leisure time. They suggest further, that for the men who spent large amounts of time with technology, this was a "gender-authentic" and "gender-available" way to deal with uncertainty and ambiguity, offering them the experience of being powerful in relation to technology.

Some of the female interviewees in my study emphasised the associations between masculinity and technology in terms of internet use. They stated that they used the internet as a "tool", rather than as a (men's) "toy". While some men also described their use of the internet as tool-like, they did not relate this to masculinity-technology associations. The use of the internet as a tool is often also associated with a lack of enjoyment. Monica, the retired teacher, does not see her internet use as entertainment.

> "So I think I tend to use it as a sort of a tool, as a means, rather than for my own entertainment really" (Monica, l.126)

This position contrasts with John's experience of being pleasurably lost in the activity, losing track of time when using the internet. Harriet, a retired marketing research assistant, also emphasised how women would use the computer as a tool and not as a (musical) instrument, highlighting the mundanity of the internet for her.

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men (Karavidas *et al*., 2005). Computer anxiety, low self-efficacy and lack of knowledge are all treated as attributes of individuals in these studies, rather than relating them to symbolic associations between age and technology.

Male cultures of technology are also likely to facilitate the development of computer use skills, which might then encourage different types of use.

> "Men like complexity. The, men like to go into the far end of everything. And they do things, just because they can. Women use it, because they need to, want to, and they do what they want, that's the end of it. We don't need, computer to me is just (.), it's a tool, it's not an instrument. … It's a tool, that's all it is. It is not a substitute for real life." (Harriet, l.323)

Amanda, a retired care home inspector, also viewed internet use as linked to masculinity and enjoyment within a male culture of technology. Her own use of the internet helps her stay in contact with others as she lives alone. Amanda previously also maintained her own blog, and uses Facebook. However, she does not perceive her technology use to be as enjoyable as her perception of male pleasure in internet use.

> "I think most men just love anything that they can press a button and something happens. They just love it! They are like children in a toy shop, aren't they? And they love it! And that's why they love the, you know, they love the games and funny little creatures running around a screen, at least all the men I know love that sort of thing! And just the sheer technology, just the whole business of a shiny little piece of equipment that is this size, that you can talk to somebody in Iceland, you know, and find out all this information and, they just love it! Is my experience. I don't know a man that isn't knee-deep in it! I don't think I know, I do know one man who won't touch a computer, but it is the only one! Everybody else is, yes. Even the elder, you know, the elder ones. The very elder ones don't, because they, you know, they are not gonna do it well, so they are not gonna do it. Mainly, it is a man thing that. So they are not gonna touch it at all. But anybody you know, below sort of 80, is gonna have a pretty good crack! And before you know where you are, they'll have all the gist of the gadgets and what have you, that go along with it. And, I think that is one of these competitive things that they tend to have more than we do. Maybe not. But that, sort of my experience is that they explore what is, the possibilities of all these, excite them far more than they excite my friends, certainly. You know, we acknowledge that it is very useful, we acknowledge that it is very time saving on some things." (Amanda, l.303)

7.5. Conclusion

Following the discussion of domestication, use and connectedness in the previous chapters, this chapter has explored age-gender-technology relations further. I have presented data on: age-technology relations, gender-technology relations, and

intersections between age, gender and technology in the experiences of interviewees, to demonstrate how the proposed model helps us understand the significance of age and gender in older people's internet use.

To summarise, the different theoretical strands are enriched through the proposed combination of positions in the following ways: Feminist technology studies offer a conceptualisation of gender and technology as mutually shaping. They gain from more research into mechanisms which lead to the persistence of gender-technology relations, research which is facilitated through my domestication approach. Furthermore, the combination with intersectionality research enables the extension of feminist technology studies into a wider framework, which enables me to theorise the inclusion, and intersection, of several social inequalities. This allows us to analyse the interplay of several social inequalities in technology use situations further, and to understand the diversity of outcomes of different intersections. Domestication theory is utilised because of its insights into studying everyday life (specifically the integration of technology), and the attention to more social inequalities than gender. Studying domestication enables us to explore the intricacies of computer use in the home, which then reveal the ways in which age-gender-technology relations involve mutual shaping processes that are developed, lived and challenged. Domestication approaches also benefit from the theorisation of social inequalities on several levels, as suggested by feminist technology studies (Faulkner 2001) and intersectionality theory (Winker and Degele, 2011), both of which are based on Harding's (1986) conceptualisation of gender. Intersectionality studies offer an approach which can theorise the interactions between several social inequalities, rather than only those between one social inequality and technology as in feminist technology studies. However, intersectionality studies hardly analyse technology and social inequalities as socially shaping, so that the combination with a mutual shaping approach can enable a theorisation of technology as social within intersectionality research. The latter gains insights via the importance of understanding technology as social, and its significance for gender (and age) from the combination with feminist technology studies (and their application to ageing research). Ageing research offers some insights into the importance of age for technology, but its theorisation of age-technology relations (see e.g. Richardson *et al*., 2005; Joyce and Mamo, 2006) is as yet underdeveloped, so can benefit from approaches provided by feminist technology studies.

My data has provided evidence of the importance of gender and age for domestication processes and use on a number of different levels. It has highlighted specific mechanisms that serve to maintain traditional gender-technology relations in domestication processes of the internet. Also my analysis has demonstrated both the ways in which gender and age operate on several levels, and that in being domesticated, the internet becomes integrated into an everyday life shaped by social inequalities, through a moral economy of the household which is equally shaped by gender and age. It has also demonstrated the limits of individual agency in terms of changing traditional age-gender-technology relations in domestication processes, and the relevance of traditional age-gender-technology relations as a context for older women's and men's internet use. More generally, my study has shown the diversity of outcomes from the intersection of age-technology and gender-technology relations in internet use, suggesting that the impact of traditional relations is mediated through the intersecting of different social inequalities shaping with technology.

Domestication theory highlights the potential of individuals and households to actively (but not necessarily progressively; Silverstone, 2005) shape the integration of technology into everyday life. However, I have argued that this theoretical approach neglects some aspects of social inequalities, namely structure and symbolic associations, as well as the mutually shaping processes (Sundin, 1997). These aspects exist both in terms of gender and age. I have also argued that feminist technology studies' perspectives should be integrated into domestication theory. Linked with an understanding of the intersecting of social inequalities and gender, this approach can be utilised to study the shaping between multiple social inequalities and technology. Studies that neglect the structural aspects and symbolic associations of gender and/or age and research them solely in terms of identity, do not take into account their impact as power and oppression (see for examples Brynin, 2006; Habib and Cornford, 2002). Consequently, the significance of intersections of age and gender for computer and internet use is underestimated.

Chapter 8: Understanding internet use in later life

This chapter discusses the analysis of traditional **age-gender-technology relations** as the context of internet use. It summarises the **aims, design and findings** of the study, highlighting its main **contributions** to the understanding of older people's internet use, and to different sociological fields. It also suggests further research which could build on this study to explore age, gender and internet use.

8.1. Integrating domestication theory, feminist technology studies and sociological research on ageing

This study combines the analysis of gender-technology relations developed by feminist technology studies with domestication theory in order to examine the significance of gender in internet use, as well as to develop a research perspective which can analyse the mutual shaping of social inequalities and technology in everyday life. Feminist technology studies examine the mutual shaping of gender and technology, avoiding technophobic (e.g. Mies and Shiva, 1997) as well as technophoric (e.g. Plant, 1997) feminist interpretations of technology. They suggest an analysis of gender and technology as socially shaped (Faulkner, 2001), understanding both as processes (Berg, 1994). While feminist technology studies focus on the analysis of gender-technology relations, domestication theory treats gender as one of many elements in the adoption of technology. Besides gender, social inequalities such as class or ethnicity and other factors such as geographic location (Silverstone *et al*., 1992) are equally important for understanding the processes which lead to technology use. These domestication processes are understood as part of the "moral economy of the household", through which the household participates in a public production and exchange of commodities and meanings. Silverstone *et al*. argue that "in the continuous work of reproduction – and via the mesh of class position, ethnicity, geography and the rest – the household engages in a process of value creation in its various daily practices: practices that are firmly grounded in, but also constitutive of, its position in time and space" (p. 19). Following this perspective, individuals and households domesticate ICTs, according to their positioning in terms of, for example, gender and age through their use of ICTs. It is the aim of maintaining, as well as assuring oneself and others of one's positioning within society, that leads to particular processes of domestication. However, in this perspective, social inequalities and technology are not conceptualised as mutually shaping, and it is unclear how change, for example

in terms of gender-technology relations, takes place. While domestication theory includes several categories that have been analysed as social inequalities, feminist technology studies have theorised gender-technology relations in depth.

I have argued that the neglect of mutual shaping processes is problematic for understanding technology use, and not only gender in technology use, but the mutual shaping between technology and social inequalities in general. Domestication theory suggests that various elements such as gender, class or geography impact on the integration of technology into the household. It seems possible for more or fewer elements to be part of this process, but how and why these are important for technology use is not further theorised. Current domestication research assigns gender a role in technology use, but only highlights a one-directional impact, neglecting the mutuality of shaping processes. Moreover, an analysis which only studies the impact of gender on technology use, leads to research which is based on an account of gender as "fixed", and unaffected by different technologies. In contrast to this, feminist technology studies (Berg, 1994), have argued that gender has to be understood as a social process, which is produced alongside technology.

Domestication theory offers a sociological approach, suggesting that, for example, gender can be relevant for technology use. It states that the use of technology is shaped by the context of everyday life (Berker *et al*., 2005), but although the importance of this context is pinpointed, domestication theory does not offer any further explanations. A similar problem has also been identified as lack of an analysis of power and domination in the conception of gender in actor network theory (ANT) (Cockburn, 1992), which neglects the fact that traditional gender relations result in the domination of women by men in everyday life. If ICTs are studied from a feminist technology perspective, their use can be examined in the context of traditional gender-technology relations, which enables us to explore the significance of different aspects (such as structure, symbolic associations and identity) for the internet use experiences of women and men. Studying the simultaneous interplay of all three levels also allows us to better integrate atypical experiences within the analysis.

Domestication theory alone cannot fully take into account the significance of gender and other social inequalities in shaping the context for technology use. It is possibly its anchoring within media studies, which leads to a perspective in which the relevance of social inequalities is noted, but without a preceding analysis of the

significance of these social inequalities in the everyday lives of users. This contrasts with the sociological analysis of technology use, which can build on the analysis of everyday life as shaped by social inequalities. Silverstone *et al*. (1992) view the moral economy of the household as a site of agency which includes practices that are the basis for ontological security (Silverstone *et al*., 1992), and demonstrate the ability of the household and the individual to participate in the "public economy". This conceptualisation of domestication processes seems to focus on successful technology use, in which users choose to reproduce their positioning. It neglects how technology and its context are also shaped by social inequalities, and how technology equally involves unsuccessful use, non-use and exclusion. The way in which technology is used or not, can also confirm the exclusion of individuals from the public economy, and reproduce social inequality.

Building on the work of Silverstone *et al*., I have argued that domestication processes include spaces for individual agency. However, it is necessary to further explore the mutual shaping processes of technology and social inequalities to better understand the role of agency in the domestication of the internet, as well as its limits. It is therefore important to avoid the reduction of social inequalities to aspects of identities. The analysis of gender-technology relations developed in feminist technology studies (Faulkner, 2001) distinguishes between gender structure, gender symbolism and gender identity (first introduced by Harding, 1986), arguing that gender shapes everyday life simultaneously on these three levels. Although domestication theory sometimes includes gender and age within the study of ICTs in everyday life, the comparison with feminist technology studies highlights the need to theorise gender and other social inequalities in more depth. I have argued that the integration of feminist technology studies enhances the analysis of domestication processes and gives it a more sociological grounding.

This study has further explored the mutual shaping processes of gender and technology by identifying some of the "mechanisms" which maintain traditional gender-technology relations. As Cockburn (1992) has argued, technology "cannot be fully understood without reference to gender" (p.32), and it is at the same time part of gender identity. Studies which analyse the social shaping of technology within domestication processes, often focus solely on the attribution of meaning to technology. In contrast to this, a mutual shaping perspective can also demonstrate the importance of technology for gender identity, which contributes to the persistence of gender-technology relations.

Research on older people's technology use is often based on an assumption that it is different owing to the effects of physical ageing. As discussed in chapter 3, it is particularly gerontechnology which views older age as problematic and reduces it to the experience of ageing bodies. Based on this conception of ageing, gerontechnology studies the development of specific technologies for older people as a means to postpone the negative effects of ageing bodies on everyday life experience. Buse (2009a) analysed older people's internet use from a sociological perspective as being shaped by embodied technobiographies. I argue that we also need to analyse how age shapes internet use owing to it being a social inequality (McMullin, 2004a), including the social construction of ageing in terms of age symbolism. The point at which someone is considered "older" often pre-dates by many years and decades physical ageing processes which might prevent computers use. I have also argued that current research on age and internet use neglects an analysis of the social construction of ageing (Bytheway, 1995).

Research on ageing could better grasp the relevance of age for understanding technology, if it adopted a similar approach to the study of gender-technology relations in feminist technology research (see e.g. Faulkner, 2001). In this perspective, the group which is statistically most excluded from internet use, older women, uses the internet less because of a combination of different aspects (structure, symbolism, identity) of gender as well as age. Kennedy (2005) suggested the integration of analyses of intersectionality in her study on "race" and class in women's internet use. To highlight the mutual shaping processes between technology and age as well as gender, I have argued that we need an analysis of age-gender-technology relations. Through the inclusion of more than one social inequality, this analysis can take the diverse outcomes of intersections into account.

The distinction between structure, symbolism and identity allows us to include all these dimensions in the analysis, without reducing gender to one of them. Domestication studies, which focus on the shaping of technology more than on mutual shaping as suggested by feminist technology studies, propose an understanding of the integration of technology into everyday life according to the social position of a household or an individual. Although gender is mentioned as one of the factors which define this position (Silverstone *et al*., 1992), it is crucially not understood as a social inequality but as an aspect of the identity of users and households. In contrast to current domestication studies, my approach recognises the intersecting of social inequalities which, in the context of age-gender-technology relations (stating that traditionally, older women would be most excluded from

internet use because they are older and women), create different opportunities for individuals and households to domesticate a technology. It recognizes, however, that this integration does not take place in a void. Older women who do not use the internet much, do not all deliberate about use and come to the conclusion that in order to assure themselves and others of their identity, they would rather not use the internet. Instead, use and non-use are results of structure, symbolism and identity, in terms of gender and of age, often leaving little space to act, compared to the perspective of domestication studies. Use and non-use are also linked to processes of exclusion. Age-gender-technology relations help us understand both the subtleties of these processes on several levels, and the mutual shaping between gender, age and technology. Due to the inclusion of more than one social inequality, we can also analyse the results of intersections. The analysis of internet use in older people's lives demonstrates the persistence of age-gender-technology relations. It is because of the recognition of everyday life as shaped by social inequalities, and the significance of traditional age-gender-technology relations, that a perspective which fuses feminist technology studies, sociological research on ageing and domestication studies, can better grasp the relevance of age and gender for internet use.

The suggested perspective can demonstrate the significance of age-gender-technology relations, but it does not need every individual to act similarly to detect their relevance through use patterns (see the discussion in chapter 1 of Habib and Cornford, 2002). Instead, gender and age operate on several levels, which result in different outcomes. As, for example, Thornham and McFarlane (2011a) have shown in their study on women's and girl's talk about technology, experience in using a technology does not mean that traditional gender-technology relations become irrelevant. Similarly to this, I demonstrate examples for the significance of gender-technology relations despite the increased use of the internet by women. As discussed in the previous chapters, the experiences of women who are the main users of the internet in their households, do not necessarily lead to a questioning of gender-technology relations in terms of the computer. The analysis can also include those examples in which older women and men are using the internet atypically within the sample. And it can study age and gender as process, instead of fixing it within individuals as solely an aspect of their identities. This means that the experiences of older women who use the internet more than the men in their households, or men who use it less than women, provide more than a contrast to the majority of examples. Instead, we can demonstrate how these are specific

experiences which also take place within the context of traditional age-gender-technology relations. Analysing age and gender as processes means that they are shaped by technology (and therefore open to modification), and that a non-traditional positioning of an individual in terms of age or gender identity does not necessarily recode age-gender-technology relations. This prevents us from determining the significance of gender and age through the contrasting of women's and men's use, and younger and older people's use. Since gender and age are more than identity, such approaches tend to underestimate their significance for internet use.

8.2. Combining research on technology use in everyday life with intersectionality theory

Feminist technology studies have demonstrated the various ways in which gender is implicated in the design, distribution and use of technology (Cockburn and Omrod, 1993; Kleif and Faulkner, 2003), which has led to the conceptualisation of gender and technology as mutually shaping (Wajcman, 2004). It can be argued that a factor contributing to the difficulty of theorising internet and gender is the history of research into gender and technology, in which, as Wajcman (2010) showed, dominant perspectives swung from being very critical of technology (e.g. ecofeminism), to technophoric (cyberfeminism). Cyberfeminism only emerged with the study of digital technologies, and it was characterised by a certain amount of technology-determinism (e.g. Plant, 1997b), as well as gender essentialism. If we study ICTs from a mutual shaping perspective, it is important to analyse the current use of the internet as an aspect of everyday life and the domestic realm. Rather than differentiating between the on- and the offline, this allows us to study it in the context which shapes its use (Baym, 2004).

The perspective I have proposed begins with an exploration of the experiences of individuals, tracing the social construction of technology in their stories on internet use, and integrates domestication research with the analysis of social inequalities as mutually shaping. This has allowed me to utilise existing research on gender and technology from feminist technology studies, together with research on intersectionality. A similarly alternative approach was suggested by Halford and Savage (2010), combining theory which hardly analyses gender (Bourdieu, ANT), or technology (Bourdieu), with feminist technology studies, to examine digital inequalities. However, I have argued that intersectionality theory combined with

domestication studies and feminist technology studies is better suited to explore the mutual shaping processes between technology and social inequalities. This approach allows not only an analysis of technology as shaped by several social inequalities, but also provides a means to further study the details of mutual-shaping processes in everyday life.

Although domestication theory (Silverstone *et al*., 1992; Berker *et al*., 2005; Buse, 2009a) offers a theoretical base to study the internet in everyday life, it is important not to lose key aspects of our analysis of gender when combining it with a theoretical tradition that stems from a cultural studies and new media studies perspective. It is particularly the understanding of technology and gender as mutually shaping, and the different levels on which gender is effective (structure, identity, symbolism), which have to be consciously integrated into a domestication approach. One helps us to understand the difficulties in attempting to change gender-technology relations, and the other, the significance of gender for technology use. A weakness of current research on the domestication of ICTs is the neglect of different dimensions (Faulkner, 2001; Harding, 1986) of social inequalities.

The next challenge is to analyse the mechanisms which lead to the persistence of traditional gender-technology relations. Despite calls to study the diversity of experiences with technology (Wyatt, 2008; Henwood *et al*., 2001; Lohan, 2000; Landstroem, 2007), there is a lack of research into the details of mutual shaping processes between gender and technology. My thesis aims to contribute to a relatively unexplored research area which further explores the “details” of mutual-shaping processes in internet use. This leads to research questions on interventions, and opportunities for changing gender-technology relations. How are relatively new technologies and current gender relations intertwined? What are the results of interventions in everyday life which aim to change gender-technology relations in older people’s internet use? If both a woman and a man in a heterosexual couple have access to, and use, the computer, how does this affect the level of symbolism and the way in which both think about gender and technology? How are traditional gender-technology relations lived, what are more and less effective interventions, and what are the factors which contribute to less traditional gender-technology relations? Is the use of the internet for various, mundane everyday activities weakening its symbolic association with masculinity?

All these questions are related to the in-depth study of mutual shaping between gender and technology. I have argued that it is important to extend this approach to include other social inequalities than gender, such as age. Kennedy's (2005) analysis of gender, "race" and class offered an early example for studying intersectionality in internet research, which remains an exception to date. An analysis of age and gender as intersecting enables us to examine the complexity of technology use situations better, and the intersectionality perspective developed in feminist research can examine the intertwining of several social inequalities, which contributes to theorising age-technology relations in more depth. Walby *et al.* (2012) discussed the intersecting of social inequalities as mutual shaping processes, which would mean that gender and technology, age and technology, and gender and age are all mutually shaping each other. The following figure illustrates these relations.

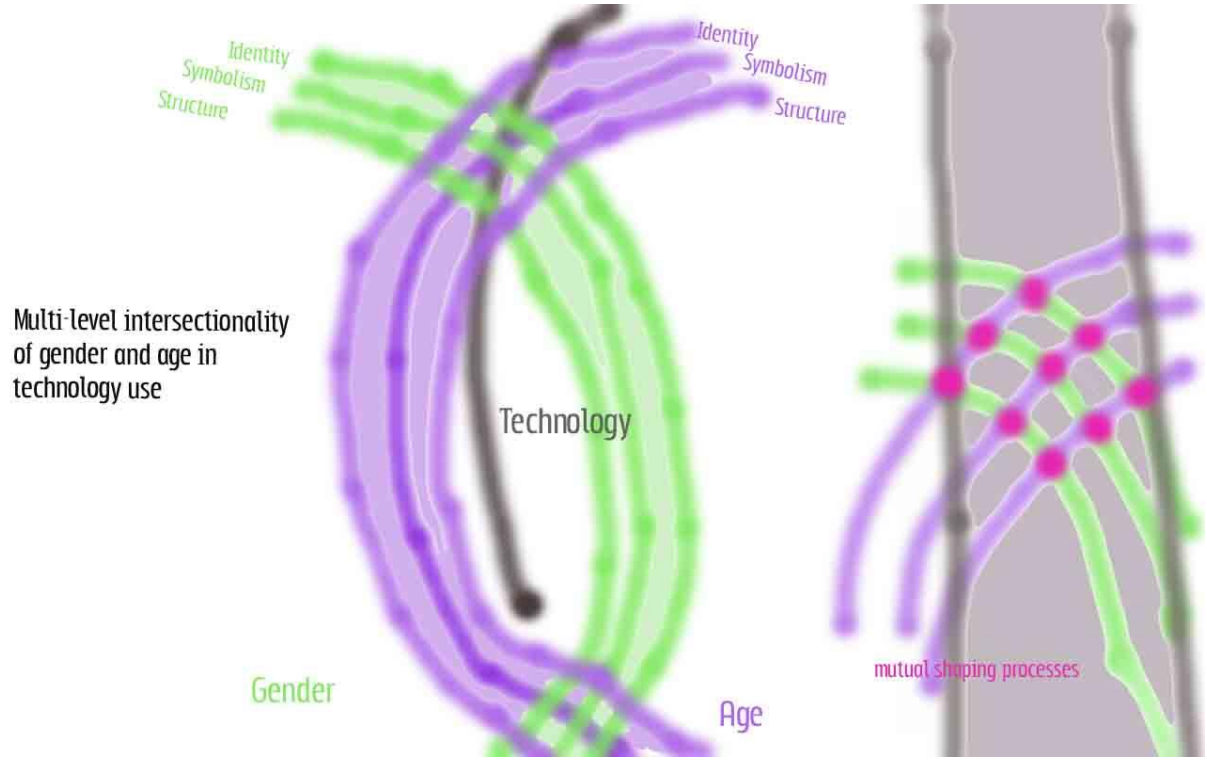

Figure 1: Technology as a social phenomenon: the complexity of technology use experiences from an intersectional perspective

As described in chapter 4, intersectionality theory emerged in the 1990s, and has been discussed as one of the most promising concepts in feminist theory, and as making a contribution from feminist theory to sociology (Choo and Ferree, 2010). Much of the debate around intersectionality centres around "what" is intersecting, as well as "how" this takes place (Winker and Degele, 2011). During this process of refining intersectionality as a concept, debates developed on intersectionality as a theory, as well as a methodological strategy (Davis, 2008; Winker and Degele,

2011). Various authors have developed the means to theorise and empirically study intersectionality, which have been categorised in different approaches. As previously discussed, McCall offers a categorisation of intersectionality studies in intracategorial, anticategorical and intercategorical studies. These focus on the study of marginalised groups, on the deconstruction of categories, and on the relations between different categories in quantitative studies.

More recently, authors in this field have argued that we need to develop approaches which are more integrationist, and do not need to decide between the study of one or another level (Risman, 2004; Winker and Degele, 2011; Kerner, 2012). These are debates on the "what", rather than the "how", as they focus on the conceptualisation of social inequalities. Like these authors, I argue that intersectionality benefits from an integrationist approach, which addresses all three levels of social inequalities. These authors also emphasise the interactions between different levels (Winker and Degele, 2011; Kerner, 2012) and the need to move beyond discussions of "main effects", distinguishing between more and less important social inequalities (Risman, 2004; Choo and Ferree, 2010).

Winker and Degele argue that Harding's (1986) understanding of gender as structure, identity and symbolism, could be used for an analysis of multi-level intersectionality[31]. Kerner (2012) and Risman (2004) suggest approaches that equally combine three different levels and which partly overlap with Winker and Degele's approach. In common with Winker and Degele, I argue that intersectionality studies should incorporate all three levels. However, they state that besides their analysis of gender, class and "race", the body should be studied as an additional category. This proposal is based on the cultural construction of bodies, and the manner in which bodies are linked to career opportunities, to pressure to look young and to care for one's health, and to age, attractiveness and "lookism". Age is in this conceptualisation an aspect of the relevance of the body. In contrast to this, I argue that the body is part of internet use experiences, but that ageing is also relevant in terms of its social construction. In this study I have demonstrated how age is significantly shaping with technology owing to its character as a social inequality.

[31] Winker and Degele also suggest a detailed research protocol for analysing multi-level intersectionality. They propose including a limited number of structural categories, and an unlimited number of categories in terms of identity and representation. In contrast to Winker and Degele, I argue that it is important to study the same social inequalities on all three levels, since this also ensures that diverse outcomes of intersections are systematically taken into account.

8.3. Aims of the study

This study has explored gender and age in internet use, aiming to provide a better understanding of older people's internet use. To unpack the complexity of gender and age, it has utilised a combination of domestication theory, feminist technology studies and the sociology of ageing. The analysis of the empirical data focused around three different research questions. The first question dealt with domestication processes as they were discussed by Silverstone *et al*. (1992), exploring whether the different domestication phases are shaped by gender and age. The second question aimed to analyse the use of the internet and web 2.0 for different activities, examining how gender and age are intertwined with use. The third question investigated the potential of the internet to facilitate the experience of different forms of social connectedness.

- In what ways is the internet domesticated by older users within everyday contexts and is this process of domesticating the internet gendered?
- To what extent is the use of the internet and web 2.0 gendered and what is the significance of age in use?
- Does internet use provide an opportunity for older people to experience different forms of social connectedness?

8.4. Study design

The empirical part of the study consisted of a pilot and a main research phase. In the pilot phase, the data collection included face-to-face interviews with attendees on a beginners' computer course in a local computer centre (7 participants), and someone found through personal contacts (1 participant), as well as email interviews with users of an online forum on a website for older people (2 participants). After analysing these interviews, I developed the guidelines for the semi-structured interviews further and decided to exclude email interviews as a data-gathering method. The main research phase included face-to-face interviews with members of an educational organisation for older people (27 participants), with individuals recruited through a research project at the university (5 participants), and snowballing from the latter (1 interviewee). Additionally, 7 interviewees also participated in a video-recorded session using the internet in their homes, directly after participating in the interview.

The interviewees in the main phase included 18 women, 15 men, 13 interviewees between the ages of 55 and 64, and 20 interviewees who were 65 years and over. The interviews and the videos were transcribed (the latter through a transcription of the speech and descriptions of changes in the camera frame). These were then included in an NVivo analysis software project. The first step of the analysis involved coding the material to get an overview of the data, with codes which mainly summarised the data, and located different parts of the questionnaire in the interview. This allowed me to access data material across all interviews that was related to a specific aspect of the questionnaire. These codes were then grouped in different themes, and written up in memos. Subsequently, I returned to the interviews, and summarised each of them, which enabled me to view different parts of the interview in the overall context of one interviewee's experiences. The three research questions were then explored through interrogation of the data, and written up in chapters 5–7 of the thesis.

8.5. Contributions: overview of the main findings of the study

8.5.1. The importance of talk for domestication research

Methodologically, the study demonstrated the importance of talk for researching domestication processes. This became clear through the comparison of interview material with the additionally video-recorded internet use sessions. While the latter contributed prompts for interviewees to explain their use of the internet differently, and made spatial and temporal aspects of their use more evident, the transcripts which were produced of the video recordings revealed those aspects which were not related to talk as negligible for the analysis of domestication processes. Although these video-recording sessions were initially included in the design of the study to reveal tacit practices in the participants' internet use, analysis highlighted how domestication practices are practices of attributing meaning. I suggested that the analysis of domestication processes can be thought of as a second-order interpretation, since domestication processes themselves are processes of interpreting technology by its users. A reliance on explanations of technology use – which constitute interpretations of technology – is therefore indispensable for analysing domestication.

Mute visual data, those excerpts of the data which do not contain talk, are only included in video recordings and not in the interviews. This also includes traces of the interpretation of technology, such as the positioning of the computer in a specific environment. However, compared to data which includes talk and can also comprise stories of past and avoided uses of technology, the scope of possible interpretations of technology by users communicated only through images is limited. Only those processes of interpretation which are visible in the moment can be analysed.

In terms of the analysis of practices based on tacit knowledge, this type of data material would be useful for studying practices based on motor-skills (Collins 2001). These practices describe a situation in which we know how to do something, but find it difficult to explain how to do it, due to our reliance on tacit knowledge. An ethnomethodological analysis of computer use could benefit from the detailed recording of gestures. However, in a study focusing on the significance of age and gender in domestication processes, particularly represented as social inequalities, the analysis of such detailed data on interactions in mute visual data is difficult to integrate.

The importance of meaning attribution by users does not imply that all aspects of domestication processes are manifest for participants. The analysis of these processes goes beyond the description of experience by interviewees. For example, interviewees may state that gender is important in terms of 'men being more technical', while the analysis might show the effectiveness of the gendered division of labour in shaping technology use.

Collins (2001) argued that besides tacit knowledge which consists of motor-skills, other forms of tacit knowledge can equally inform practices. He termed these the "rules-regress model", which refers to the fact that rules do not include all the rules for their own application, and "forms of life", which focuses on the implication of social groups in the emergence of knowledge (knowledge as partly dependent on the social context and as such tacit). These types of tacit knowledge would potentially sit better with the overall framework of a domestication study, since they go beyond tacit knowledge consisting of motor-skills. The household itself could be conceptualised as the social group which produces a specific interpretation of technology, which informs the practices of the members of the household. Rather than relying on mute visual data only, I found that an approach which uses data which includes talk, is "closer" to the process of the interpretation of technology by

users (including their explanations) and provides more diverse data (e.g. on historical events).

The importance of talk for the analysis of domestication processes is also reflected in the conclusions of this study, which demonstrate several ways in which talk is implicated in mutual shaping processes between age, gender and technology. I have argued that previous research neglected symbolic associations, which are aspects of discourses on technology, age and gender. The "mechanisms of mutual shaping processes", as described in section 7.3.3., consist of specific ways of talking about gender and technology which serve to perpetuate traditional gender-technology relations. Similarly, the analysis of participants "taking a stance" (see section 8.5.2.) refers to the ways in which they position themselves in relation to their perceptions of general age-gender-technology relations in the interview, which is also linked to talk.

8.5.2. The context of age-gender-technology relations and internet users as "taking a stance" in domestication processes

My study is based on the conceptualisation of gender and age as effective in terms of structure, symbolism and identity (Harding, 1986; Faulkner, 2001; Winker and Degele, 2011). I studied domestication processes through the stories interviewees told me about their experiences of internet use. As part of the interviews, I also asked participants about possible differences between women's and men's use of the internet, and those of older and younger people's. Those interviewees, who viewed, for example, women's and men's use of the internet as different, also positioned themselves in relation to these differences. For some, their own use confirmed different internet uses between, for example, younger and older people. For others, their own experience of internet use was an exception to these perceived general differences. It is through the construction of technology use in the interviews, and answers to these questions about differences, that interviewees simultaneously and explicitly position themselves in terms of age-gender-technology relations as an aspect of their identities. Sometimes, research participants also highlighted particular relations between gender and age, such as that gender differences in internet use only existed among older people. In contrast to the conceptualisation of most domestication studies in which users domesticate technology to reproduce a traditional positioning in society, my study has explored the potential and limits of user agency in more detail. I have argued that users have

individual agency in terms of positioning themselves and using the internet in certain ways, but that this takes place in the context of traditional age-gender-technology relations.

8.5.3. The shaping of different domestication phases by age and gender

In a small subgroup of the multi-person households who participated in the study, women were the main users of the computer (4 households). Age was important for where computers were located, most often in separate rooms which used to be the bedrooms of now adult children. Equally, this was often shaped by gender. Some of the women who participated in the study argued that they preferred computers not to be in rooms where they could interfere with other activities. Computers as a means of communication were also shown to be important for the relationship dynamics between a mother and her children, highlighting the involvement of technology use in emotional aspects of relationships between family members.

For some interviewees, the internet, and particularly email use in the morning, enabled them to structure their day. Some emphasised the need to manage emails to retain control over time. The experience of one interviewee who emphasised how he enjoyed losing track of time when he was doing genealogy research, stands in contrast to this wish for control. In several households, men's time-intensive use of computers during the day led to disagreements. In contrast to this, several married women described how they used computers when they could not sleep at night, minimising the impact this could have on their partners who slept at the same time.

Computers were used for family display by two women, who regularly used slideshows of family pictures. However, many interviewees were critical of the usefulness of presenting themselves online on social networking sites, arguing that no one who uses the internet would be of interest to them because of their age, or that they did not need new social contacts. Technology use as an aspect of self-presentation was also linked to gender, since some women did not have any friends with whom to talk about technology, while a group of men spent time discussing the newest technologies with (male) friends, which could also be linked to masculine cultures of technology. In terms of undesirable uses, younger people were seen as more vulnerable than older people, with only one interviewee arguing that physical ageing made older people more vulnerable in terms of technology use.

8.5.4. Older women's and men's internet use in everyday life

Almost all interviewees perceived the websites they were regularly using as aimed towards younger people, and struggled to think of websites which were intended to be used primarily by older people. In terms of web 2.0 use, contact with younger people, particularly younger family members, was important for older people's use, especially in terms of social networking sites. Whereas previous research has approached web 2.0 users as relatively de-contextualised individuals, my study highlights the need to also look at web 2.0 in the context of the family. Since many interviewees who used web 2.0 were part of their children's and grandchildren's contacts on social networking sites, this allowed them to have new access to information on their relatives' internet use. It was, for example, older women who critiqued the photos of younger female family members published on Facebook, which again also suggests the need to analyse web 2.0 in the context of the family.

8.5.5. Forms of social connectedness

Different forms of social connectedness were part of the interviewees' experiences of internet use, and they both received help from others, and supported friends and family in their computer use. Furthermore, the study has demonstrated the importance of family relationships for online communication, as well as the use of the computer for practices of extending family networks through genealogy. Most interviewees also communicated with friends, and two interviewees also had other email contacts who were neither friends nor family, but had a high importance for them (breast cancer support group, software forum). One woman highlighted how she felt less lonely because of her use of the internet, and a small group of interviewees found that internet use increased connectedness, irrespective of particular communication partners. While many interviewees used the internet to communicate online, those examples in which the internet was used to establish new relationships were very rare. This suggests that possible interventions which aim to increase internet use could result in connecting those who are already connected, rather than being effective in terms of connecting older people who do not have wide family and/or friendship networks.

8.5.6. Age-gender-technology relations

This study contributes to research on older people's use of the internet and particularly web 2.0, by identifying age-gender-technology relations as an important context of use. The importance of gender and age for understanding older people's internet use has been argued through an analysis of domestication processes and the use of the internet to pursue different activities. Furthermore, different forms of social connectedness were identified in relation to use. The study has examined associations between ageing and lack of social connectedness, demonstrating that an approach which views internet use as only connecting older people to social networks, neglects the varied contributions they themselves make to social networks, as well as those experiences through which older people feel connected.

Based on the analysis of gender-technology relations in feminist technology studies, age-technology relations were similarly conceptualised as effective in terms of structure, symbolic association and identity, and the analysis was developed further through a focus on the social construction of age within age-technology relations. The persistence of gender-technology relations is further examined through the identification of specific mechanisms which serve to maintain such relations by associating different technology use practices with women or men. The study also discussed examples for intersections between age, gender and technology, which create different subject positions for individuals.

I have argued that an analysis of older people's internet use needs to take the social construction of ageing into account. Buse (2009a) suggested that older people's internet use should be understood as shaped by embodied technobiographies, highlighting the importance of previous experiences of technology use and the use of technology in formative years, for internet use in later life. While technology use certainly includes bodily practices, and the historical shaping of these practices, I have demonstrated the importance of broader social relations. My analysis has shown that the social construction of ageing and older people as non-users, juxtaposed with younger, capable technology users, is a significant element of the domestication of the internet. While none of the participants viewed themselves as too frail to use the internet, they (1) had experienced other people assuming their lack of technical competence because of their age and (2) offered their own constructions of younger people as necessarily more competent than older people. Similarly to understandings of gender differences as biologically given, my data has shown how age difference in technical competence is understood as "natural", since

interviewees argued, for example, that younger people have technology use “in their blood”. I have argued that the social construction of ageing partly relies on the reduction of ageing to physical ageing processes (which is sometimes also reflected in research perspectives such as gerontechnology), and that it is therefore imperative to combine analyses of physical ageing processes together with an analysis of the social construction of ageing.

My approach has combined feminist technology studies with domestication studies, and extended this analysis to also include ageing research, arguing for an analysis of the intersectionality of technology and social inequalities. In comparison to other authors in the fields of domestication studies, feminist technology studies or ageing research, I have analysed traditional age-gender-technology relations as a significant context for older people’s internet use. I approach internet use in everyday life as a process of mutual shaping between social inequalities and technology on several levels, which distinguishes my perspective from many existing domestication studies, since I consider both symbolic associations and structural effects. In terms of web 2.0 use, my study is innovative in applying a domestication perspective to web 2.0 use. In contrast to existing studies on older people’s technology use and some analyses of gender and internet use, my study aims to conceptualise age and gender as social processes which are shaped by age-gender-technology relations. I have argued that existing studies tend to only take age and gender as identity into account, neglecting their effectiveness in terms of structure and symbolism. Similarly to Kennedy (2005), I demonstrate the benefits of using intersectionality to analyse the diversity of outcomes of the intersection of several social inequalities in internet use experiences. Furthermore, I have argued that multi-level intersectionality (Winker and Degele, 2011) can grasp the complexity of the intersections of age, gender and technology better than earlier models which generally focused on one of the three levels. Thus, I have proposed a research perspective which can grasp the significance of gender and age as social inequalities, as well as analyse “atypical” experiences as taking place in the context of age-gender-technology relations. Interestingly, in terms of research on gender and technology, as well as on age and technology, it is Haraway’s figure of the cyborg (Haraway, 1991; Henwood *et al*., 2001; Joyce and Loe, 2009) which is utilised to demonstrate the potential of theorising the diversity of technology use experiences, including those “atypical” experiences.

Regarding social gerontological research in general, Calasanti (2003) argued that age should not only be studied as social inequality, but that age relations should be

theorised as relations of power. Feminist research has previously highlighted the neglect of power in different approaches to studying science and technology. Berg and Lie (2005) critiqued constructivism in studies of science and technology for not applying concepts such as power and hierarchy, which are more commonly used in feminist research. Cockburn (1992) demonstrated that actor network theory (ANT) conceptualises power only as capacity, and not as domination, exploitation and control, neglecting its effectiveness in the form of domination of women by men in technology research. Building upon their approach, I have argued that domestication theory does not develop gender or age as questions of power beyond the household. Domestication theory neglects the shaping of the context of ICT use and of the moral economy of the household itself by age and gender, therefore failing to view their impact as social inequalities. The conceptualisation of both as aspects of identity, and the missing link to feminist, sociological and other research which investigates their implication in the shaping of everyday life, results in an underestimation of their significance.

My approach takes the diversity of experiences of technology use situations into account, also studying atypical experiences. My analysis also highlights how the "reproduction of one's positioning in society" through technology use, as domestication theory terms it, is not only a story about successful use, but can equally be the result of exclusion and unsuccessful attempts at use; it can also make the lack of power of an individual related to the use of a specific technology visible. The identification of traditional age-gender-technology relations as context of technology use, enables me to take their relevance into account, without dismissing all atypical experiences. It is based on an analysis of the process of domestication of technology, and emphasises the active role users have in the appropriation of that technology, but equally highlights the limits of user agency, in terms of the impact of age and gender as social inequalities which result in an unequal distribution of power.

Approaches which do not treat gender as social inequality (e.g. Lohan 2000, van Doorn et al. 2010, Carstensen 2009), aim to avoid viewing them as dichotomies, or as hierarchical (e.g. distinguishing between powerful men and younger people, and less powerful women and older people). Consequently, the power that in traditional age-gender-technology relations, younger people and men have, and older people and women do not have, is not addressed. Inequalities in technology use then become a question of either individual, personal identity, or household relationship dynamics only.

Similarly, Walby et al. (2012) called for an approach in intersectionality research which clearly identifies gender as social inequality rather than as category or strand, in order to address the role of powerful groups in intersectional analyses. For domestication research, this means that, together with the multi-level approach (structure, symbolism, identity), the limits of agency can be better described. Studies which focus on age and gender as identity tend to portray them as relatively unproblematic in contrast to an analysis of social inequalities (if positionings are reproduced this means that equally, unsuccessful use and exclusion is reproduced, and that the less powerful groups tend to be systematically disadvantaged), which offers a different perspective.

My participants tended not to talk about gender and age in terms of inequality of power. Although they identified patterns, such as: "it's a men thing", they tended to describe them in more unproblematic terms, for example as a question of difference. This is probably partly due to their everyday understanding of gender and age, and partly due to dominant discourses around newer technologies (e.g. everybody can access them everywhere, anytime). Through feminist research, it is possible to systematically explore and expose the gender and age-related unequal distribution of power, and to demonstrate the ways in which it shapes older women's and men's uses of the internet.

8.6. Technology as social: strengthening its study within sociology

Technology has a marginal position in gender theory and especially within sociology (Green and Singleton, forthcoming). Although the analysis of technology as social is not a recent development in the sociology of technology, it is rarely studied in detail. Potentially, the neglect of analyses of technology in sociology is to do with a latent identification of technology as "material" and "hard", and sociology as concerned with "social" and "soft" phenomena. However, sociologists have proved that they can tackle the "material" and the "hard", and that indeed they can analyse technology (e.g. Bijker and Pinch, 1987; Wajcman, 1991; Akrich, 1992; Green *et al*., 1993; Green and Adam, 2001). Nevertheless, the continuing marginal position of technology in sociology could be an effect of an almost subconscious divide between the "material" and the "social". Domestication theory has offered a means to avoid this split, arguing that ICTs in the home are "domesticated", and one could maybe suggest that in this tradition, technology attains a "coat" of socially shaped

meanings. This coat is woven in the process of the integration of technology into everyday life, and based on its social construction. Feminist technology studies bridge this gap between the social and the material in a more radical manner. Here, technology is not wrapped, but becomes social itself. The identification of mutual shaping processes in feminist technology studies demonstrates that socially shaped meanings do not only coat technology, but that the technology itself is shaped by these meanings, and that the meanings of technology also shape gender and age identities.

This approach has the potential to synthesise different traditions for studying internet use, such as inequality in terms of ICT access and use (which has been explored in digital divide research; van Dijck, 2005), and gender or age identity as shaping the adoption of technology studied in domestication research. My perspective adds a third focus, namely symbolism of age-technology and gender-technology relations. As feminist technology studies have shown, and I have demonstrated in this thesis, experiences of technology use also include symbolic associations (Faulkner, 2001; Thornham and McFarlane, 2011a) between masculinity and technology, and youth and ICTs.

I have argued that the important contribution of domestication research lies in its capacity to take into account the agency of users. However, the empirical exploration of age and gender in older people's internet use presented in this study, suggests that this agency is limited since it takes place in the context of traditional age-gender-technology relations. Instead of users domesticating technology in a manner which reproduces their position in society, as Silverstone *et al*. (1992) formulate, we need to understand the moral economy of the household and the household context as both shaped by social inequalities such as gender and age. If we conceptualise technologies as mutually shaping with social inequalities in everyday life, we can analyse gender and age identities as an important locus for questioning and reproducing traditional gender-technology relations in a similar way to the original proposal put forward by domestication theory. This simultaneously explains the persistence of traditional age-gender-technology relations.

In terms of feminist technology studies, the analysis of age-gender-technology relations as the context of internet use allows us to study more than just gender-technology relations. It allows us to explain the diversity of experiences better than previous studies of technology use in everyday life, as different intersections of social inequalities in technology use. If we understand the multiple levels on which

social inequalities operate, we can distinguish between those aspects which are difficult to challenge through individual agency alone, such as structure and symbolism. However, individuals can personally, as well as collectively, position themselves in relation to structural and symbolic aspects of traditional age-gender-technology relations, as part of age and gender identity. While the analysis of gender and age in domestication processes reveals the existence of the space for this individual positioning, change in traditional relations needs a critique which goes beyond the positioning of an individual as atypical for these relations (Henwood, 1993).

8.7. Connecting the study of technology in everyday life to the analysis of social inequalities

The advantage of studying social inequalities in terms of structure, identity and symbolism in domestication research are twofold. First, we can better demonstrate the significance of social inequalities, in all three dimensions. Second, the analyses of domestication theory can be more fully integrated with wider sociological theory. In terms of demonstrating the significance of gender and age, the advantage of this approach is that it is complex enough to explain more than the experience of those for whom traditional age-gender-technology relations dominate their experiences of internet use. Instead, this research perspective can demonstrate that traditional age-gender-technology relations are an important context, independently of whether someone has an experience which is congruent with what traditional relations would suggest. This perspective argues that we have to understand not only the moral economy, but also the context of the household as shaped by gender and age, which impacts on the opportunities for change. In terms of connecting the analysis of domestication processes to wider sociological theory, it supports integration with feminist theory, and also the theorisation of everyday life becomes connected with other social theories.

8.8. Implications and future research issues in the field

In terms of researching age and technology use, this thesis has investigated age-technology relations, highlighting the social construction of age which is largely neglected in research on older people's technology use. A study with fewer time constraints than this Ph.D. research project could work with a larger sample. The

majority of interviewees in this sample were recruited through an educational organisation for older people. In terms of studying connectedness, members of such an organisation could be more socially connected and also strive to avoid a particular ageing experience through an emphasis on “active ageing”. A study which also recruits more widely outside of such organisations could potentially include individuals who are less socially connected.

In terms of web 2.0, the findings of the study have demonstrated its limits as a participative technology, via an analysis of the effectiveness of social inequalities such as age and gender in shaping its use. The importance of family relationships for internet use and the central role of previously existing relationships for online communication, led to the conclusion that the use of the internet often intensifies communication in existing relationships, rather than giving an impetus for the initiation of new relationships. This is important for policy approaches that aim to connect older individuals through the use of the internet. The negotiation of web 2.0 use within families could be further analysed by collecting data at several points from the same households over a longer period of time, as part of a longitudinal study.

This study has developed a new research perspective for exploring the domestication of the internet. The perspective, which fuses different theoretical traditions, could also be applied to the analysis of other ICTs in everyday life. The analysis of new empirical material demonstrated the importance of studying age and gender as social inequalities which are mutually shaping with technology. It was argued that due to the mutual shaping processes within age-gender-technology-relations, change also has to include the questioning of these relations, rather than being based only on an intervention in terms of gender, age or technology. The study has also developed a critique of approaches which anticipate the disappearance of gender-technology relations through widened access to the internet. More research into the details of mutual shaping processes could identify other mechanisms which contribute to the maintenance of traditional relations and include other social inequalities beyond age and gender.

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Appendix 1: Overview of the interviewees

Anne

Anne is 76 and retired from her job as a special needs teacher. She lives with her husband, she does not go out much and cannot drive herself, which makes computer use a welcome alternative to spend her time. Her grandson taught her how to use Google, as she is a “noisy person”. She is disappointed that her children sometimes do not pay enough attention to her when they talk to her on the phone. Anne uses the computer for genealogy, which is her main preoccupation. She also pursues this within the educational organisation.

Amanda

Amanda is 70 years old. She is divorced and lives alone. Amanda used to work as a care home inspector. She moved into her current house with her later partner who died a few years after they moved in. Amanda is involved in several organisations such as the local history society. She attended several computer courses, but does not remember much as she did not have a computer at home at the time. Her children and grandchildren live in another town. One of her main computer uses is genealogy. She also wrote a blog for a while and is friends which her granddaughter on Facebook.

Barbara

Barbara is 76 years old and widowed. She lives alone. Barbara used to work as a finance clerk. She meets her daughter once a week. Barbara spends her time walking, folk dancing, meeting friends and participating in various organisations. Her most important use of the computer is emailing her brothers and sister who live abroad. She also plays games on the computer. Barbara sends her niece messages on Facebook.

Boris

Boris is 80, he is a retired chemical engineer who lives with his wife. Boris has three adult children. He mainly uses the computer to communicate with friends and family. After a limited use at work, Boris learned to use the computer when he studied for an English degree in retirement. He has used Friends Reunited in the past, but could not find the person he was looking for, an old school friend. One of his neighbours supports him if he needs help with the computer.

Cathrin

Cathrin is 78 years old and widowed. She is a retired physiotherapist. During the summer months she stays with her brother in the UK. She lives alone in the US and plans to relocate to the UK permanently. Cathrin removed the computer from her home in the US after her husband died. She was then encouraged by her friends to get an email address. Cathrin paid someone to teach her how to use the computer in the past. She now attends a course at the local library. Her niece showed her how to use a usb stick.

Claire

Claire is 71 years old and lives alone. She used to work as lecturer in art and design. Claire found the experience of learning to use computers frustrating at work. However, she attended a computer course when she retired. She then paid someone to set up her computer at home. Claire doesn't enjoy sitting in front of the screen and was horrified when she has spent more than 3 hours on the computer. She uses it for emailing, to plan holidays and to save money. She also finds computer jargon difficult to understand.

Charles

Charles is 58 years old and lives together with his wife. He works full time as rector of a parish and a dean. Charles started to use computers 30 years ago as part of his leisure when he was a teacher. Now Charles hardly uses the computer for leisure, but for work. His wife uses the computer for leisure and organises their leisure together. At 8am he switches the computer in his office on and at 10pm he switches it off. Charles signed up to Facebook to stay in contact with his eldest son who moved to another country.

Cynthia

Cynthia is 70 years old and lives together with her husband. She used to work as an occupational therapy technician. Her son installed the computer in the kitchen so she would use it. Now Cynthia uses the computer more than her husband. They watch videos of their son's lectures and listen to their grandson's radio programme online. If they want to do something more complicated, such as buying an item on ebay, they wait for younger family members to visit and support them.

Daniel

Daniel is 63 years old. He lives with his wife (Dorothy) and his son who is in his thirties. Daniel used to work as an assessor in chemical engineering and then as a trainer. He has been working with computers for decades. Daniel has Asperger's and had to leave his job owing to health problems. He uses the computer to send entertaining emails to various mailing lists. Daniel also occasionally reads blog entries if he happens to come across something that interests him, and has corrected mistakes in Wikipedia entries in the past.

Dorothy

Dorothy is 61 years old. She lives with her husband (Daniel) and one of her sons, who is 30 years old. Dorothy used to work as a nurse when she was younger, and later became a teaching assistant. When she retired, she planned not to use computers anymore because she didn't like using them in the classroom. Now, Dorothy does not use the computer as much as her husband and son. She relies on their help for some activities, such as uploading photographs. Her main use of her laptop is watching TV programmes.

Ed

Ed is 64 years old and lives together with his wife. He used to work as an HR manager. Ed still goes back to his old work place to give tours from time to time and also works as a co-researcher and census surveyor. Their daughters live nearby with their families. Ed's wife is still working, which gives him time to spend alone during the day. He uses the computer mainly for email and to stay in touch with friends. Ed learned to use a computer at work, but was never fascinated by the technology and viewed it as "tool, not toy".

Fred

Fred is 64 years old and lives with his wife. He retired from being head of faculty in a college a few years ago. Fred continued to teach occasionally after officially retiring. His adult daughters live in other towns in the UK. Although his wife learned to use the computer, he is the only user in their household. His son-in-law helps him if he has problems with his computer. Fred also uses Facebook since his daughters encouraged him to do so. He also looked up information online to organise help for his mother who suffers from dementia.

Harriet

Harriet is 71 years old. She lives together with her husband. Harriet used to work as a market research assistant. She knows more people in the area since both she and her husband have retired. Her children and grandchildren live in another town in the UK. She enjoys meeting her school friends. Harriet had to learn to use the computer alone when she was working for her husband's company. She asks friends for help because her husband cannot teach her. Harriet uses the computer to send recipes to her cooking group. When she is at her daughter's house, she uses the computer with her grandchildren.

Iris

Iris is 65 years old and lives with her husband. She used to work as a legal secretary. Both her sons live in other countries and keeping in touch with family is her favourite use of the computer. While computer use is leisure for her, it is work for her husband. Her experience as a typist helped her to learn how to use the computer. She had to teach herself with the help of a manual. Iris also uses the computer for genealogy.

Jack

Jack is 64 years old and divorced. His current partner lives in another part of the UK. He used to work as a GP. Jack's children and 7 grandchildren live in another town in the UK. His main use of the computer is email to friends but not family, because he finds email communication impersonal. Jack also keeps in touch with various organisations through email. He first resisted learning to use computers when they were introduced in his practice, because he found them to be depersonalising. As long as his trainees wrote by hand, he could always remember them recognising their handwriting when looking at old records. Jack checks his emails every day. He also opened a Facebook account but doesn't want to use it.

John

John is 64 years old and lives with his partner. He is retired but also works part time for the community and volunteers. His children live in other parts of the UK. John learned to use computers in the 1960s when he attended university. He uses the computer most for email and for his community work. John also has a website together with his drumming group, pursues his genealogy interest, and rates films online. He finds it frustrating that computers constantly need to be updated, which is expensive.

Kevin

Kevin is 66 years old. He lives together with his wife (Susan). Kevin used to work as a director of education. He taught himself to use computers. If his wife wants to use the desktop computer, he uses his laptop. Kevin prepares material for the educational organisation on the computer, and also has a Facebook account to watch pictures of his grandchildren. Kevin is happy that he doesn't have to be available on his Blackberry since he retired.

Lars

Lars is 58 years old and lives together with his wife. He is semi-retired, self-employed and studies for a degree in creative writing. Previously, Lars used to work as a trained computer programmer, a computer systems engineer and designer, and managed an ICT training centre. His son lives in another country, his daughter lives nearby. Lars uses the computer to sell a learning tool his wife developed, and to study for his course, and for playing computer games. He used to play World of Warcraft every night until a week before the interview. Lars found potential business partners for various projects online.

Lisa

Lisa is 78, a former arts teacher who lives together with her husband whom she married recently. After her first husband died, she started to use a computer with the help of her son. Since she married, she uses the computer less. Her husband now takes care of the maintenance of the computer. She survived breast cancer twice and uses the internet to stay in touch with her support group. Lisa does not think of herself as old. She feels as if she was 23 years old, and still undertakes various extreme sports activities to raise money for breast cancer support.

Louise

Louise is 70 years old and retired from her job as a social worker. She lives alone and has a son, whom she was planning to meet for her birthday soon after the day of the interview. Louise started to use the internet after she retired, and her internet use was embedded in diverse friendships which enabled her to help others and receive support. Louise also spends time using the internet for the educational organisation, as well as for genealogy. Louise also met previously unknown family members through genealogy.

Martin

Martin is 80, a retired senior design enigneer who lives with his wife. His daughter lives in another part of the UK and staying in contact with her is an important aspect of his internet use. Martin initially didn't learn how to use computers when he was working because he thought that he was already too old. Several years after retiring he revised this view. Martin updates his computer's memory with the help of his neighbour. He is also using the computer if his wife needs anything, and he looks up poems for her online.

Martha

Martha is 70 years old and lives alone. She used to work as a lecturer in office administration. Her sons live in another country, her daughter in the UK. She regularly visits her sons. Martha only uses a computer at the library, since she decided to give her computer away after her son and daughter-in-law had moved out of her house. She also does not access her email account in order to force one of her sons to take the time to call her.

Mary

Mary is 61 years old and lives with her husband and her younger son who is 20 years old. She used to work as a senior lecturer. Since she retired, Mary occasionally worked at her old workplace. Mary learned to use computers at work. Now she uses the computer in the morning when everyone else is sleeping. Although there are several computers, there is only one computer with access to the internet and the printer. Mary signed up to Facebook to get information on her older son's activities while he was abroad. She was shocked when she saw her niece's photos on Facebook.

Monica

Monica is 64 years old and lives together with her husband. She used to work as a teacher in non-school-education. One of her daughters lives in another town in the UK, the other in a close village. She mainly uses the computer for email, and regularly emails a close group of friends with whom she went to university. Monica shares her email address with her husband. She has a “love-hate relationship with the computer” and enjoys leaving the computer room when she is frustrated from trying to use it. She also used the computer to look up health information on her husband's illness in the past, and to look at her daughter's artwork online.

Nora

Nora is 69 years old, widowed and planning her upcoming wedding. She used to work as a medical receptionist and moved to her current house to live closer to her grandchildren. Nora started to use the computer when she retired, 12 years ago. She accesses it for emailing friends and family, to participate in the educational organisation, and to play Scrabble.

Norman

Norman is 73 years old and lives with his wife. He used to work as a shift supervisor in the chemical industry. Norman misses his work. He has two daughters and two grandsons. Norman attended a course and bought a computer a few months ago. His main use of the computer is email. Norman's wife does not use the computer at home. But he knows that she looks at clothes online when she visits her friend. Norman is annoyed by the amount of spam he receives and thinks that some people use computers to avoid personal contact.

Paul

Paul is 60 years old, separated and lives alone. He used to work as an approved driving instructor and before that in the IT department in the steel industry. His computer is switched on all day, and he moderates a forum for a software to create audiovisual sequences. Paul learned to manage his time and does not answer each email immediately. He also uses the computer for genealogy.

Peter

Peter is 66 years old and lives together with his wife. He used to work as an accountant and as a company secretary. His daughters live in other towns in the UK. Peter uses the computer for digital photography. He also used computers at work and thinks that he used to be more computer literate when he was working. No one is allowed to use a password on the home computer, or to close the door when using it. The computer automatically switches off at 11pm.

Steven

Steven is 55 years old and lives together with his wife and his younger daughter. His older daughter has moved out of the house. He used to work as a welfare rights officer until recently and is currently unemployed. Steven had to learn to use computers for his job although he was initially scared of them. His main internet use is looking up information on horse-racing sites. He also uses it to plan holidays or sell things.

Sven

Sven is 75 years old, widowed and lives alone. He is a retired principle architect. Sven came into contact with computers at work, but at the time he did not have to regularly use them. He attends a computer course. Sven also has a Facebook account, but does not know how to answer the messages his children send him through Facebook.

Susan

Susan is 64 years old and lives with her husband (Kevin). She used to work as a research assistant and as a teacher. Her main use of the computer is email. She originally learned to use the computer for her university degree and never had any formal training. She has to fight to get access to the computer she shares with her husband. Susan is not very interested in computers and has to force herself to use them. She finds computers to be time-consuming.

Tamara

Tamara is 73 years old and a retired supply teacher. She lives together with her husband, and her son lives nearby. Tamara is the main computer user in the household. Her husband only uses it very rarely and relies on her support and encouragement. Her main computer use is emailing friends and family almost every day. She is also very interested in genealogy.

Therese

Therese is 73 years old and lives with her husband. She used to work as a self-employed designer, designing jewellery and accessories. One of her daughters lives with her family in another country, the other in another town in the UK. Checking emails is the first thing Therese does in the morning. She also uses the computer for her artwork and has a website to sell art and craft utensils. Her husband does not use the computer at all. He is currently recovering from an illness which resulted in him spending more time at home. Therese also visits her mother in a care home every day.

Appendix 2: Sheet with internet and web 2.0 use activities

Your internet and computer use

Look up information on			
Local transport ☐	Local events ☐	Products/prices ☐	Wikipedia ☐
Tourism ☐	Health ☐	Council/government website ☐	Other☐

Use computers for			
Shopping ☐	Art and design ☐	Education ☐	Email ☐
Digital photography ☐	Selling things ☐	Work/work from home ☐	Communication with friends ☐
Digital video ☐	Jobsearch ☐	Maintain own website ☐	Communication with family ☐
Computer training ☐	Household bills ☐	Genealogy ☐	Communication with people whom you have never met ☐
Help somebody else do something he/she wants to do ☐	Banking ☐	Organising events ☐	Download software ☐

	Read only	**Read and write**
Message boards/forums	☐	☐
Facebook	☐	☐
Myspace	☐	☐
Twitter	☐	☐
Youtube	☐	☐
Flickr	☐	☐
Vimeo	☐	☐
Blogs	☐	☐
Online Newspapers	☐	☐

	Use online (read/listen/watch, e.g. stream video)	**Download**
TV-shows	☐	☐
Radio	☐	☐
Podcasts	☐	☐
Music	☐	☐
Films	☐	☐
Books	☐	☐
Blogs	☐	☐
Pictures	☐	☐
Games	☐	☐

Appendix 3: Interview guidelines

3.1. Interview guidelines for the pilot interviews

EXPERIENCES WITH TECHNOLOGY

If you think of experiences with any technology in your life, what comes to your mind? (e.g. everyday technology, mobiles, kitchen technology, information and communication technology,...)

Is there a technology with which you‘ve had a very different experience?

In what sort of situations would [you/someone else] use [technology]?

Which technologies are important for how you live your life? Any that you (would) never use?

Has the importance of [technology] changed over time for you?

Is there anything that ever happened to you, a story from your life, that is connected to using ICTs (e.g. how you used or didn’t use the telephone, TV, computer games...)?

Is there anything typical about your use of [technology] that is related to your age?

Do you think that there’s a difference between how men and women relate to technologies (e.g. phone)?

Are there any technologies that you particularly like?

Are there any that you do particularly dislike or find difficult to use?

Are there any technologies that you might think of using in the future but that you don’t use now?

Why did you start using [technology]?

Why have you never used [technology]?

COMPUTER USE

Where:

Where do you use a computer? Could you describe to me where the computer is located in your house?

With others?

Do you use the computer together with someone else or are you the only person who uses the computer?

Who set up the computer, who took the initiative (to have a computer, to have maybe internet access)?

For which activities?

Do you use the same computer/computer account for work/paper work/bills and leisure?

Creating boundaries:

Do you sometimes do/don't do something to have the time to use a computer?

Do you sometimes do/ don't do something to have the space where you can use the computer?

How are the boundaries created for using a computer in a household with several people? (time, space, hardware, habits, rituals, passwords)

What is difficult in relation to these boundaries for the use of a computer?

GENERAL INTERNET USE

When and how did you start using the internet? Did anyone help you?

What are your favourite internet sites?

Everybody looks at different things on the internet and uses it differently. Could you describe "your internet" to me?

What are the things, websites, people that are important concerning your use of the internet? (e.g. Facebook, Google,...)

CONTEXT OF INTERNET USE

Do you know any people who don't use the internet?

Does anyone else [you know /in your family/among your friends] use the internet?

If you could think of a typical day, when (particular times) might you use the internet and what would you do on the internet?

Are there any other activities you do while you use the internet (e.g. listening to the radio)?

When you use the internet, are there normally other people (e.g. your child, husband,..) present in the house (or community centre/library)?

Do you sometimes use the internet together with someone else (e.g. friend, neighbour, grandchild,..)?

In which situations might that happen?

Do you sometimes communicate with others on the internet (for example by forwarding photos/links to videos via email) about things that you or they've seen online? How would that happen?

Do you ever talk with others about the internet? What would you talk about?

Do you think that people of different ages use the internet differently?

Where, from which computers do you access the internet (home, workplace, community centre)?

Do you think women and how men use the internet differently?

With whom do you communicate online?

Do you communicate online with people you already know offline?

Do you communicate online with people you've never met?

Are there things that you find difficult about using the internet?

What do you like about the internet?

USE OF A SPECIFIC WEBSITE

Do you have a profile on a website and if yes, what kind of website is it?

Do you use web 2.0 websites (e.g. online photo sharing, flickr, blogs, social networking, youtube,...)

Could you tell me how you came to use this website?

What would you normally do when you visit [website]?

Since you created your account on [website], has anything changed in the way you use this website?

Is there anything that you don't like about [website]?

Did you ever write any comments on other people's entries e.g blogging?

Do you have a user account on any other website?

How would you describe your relationship to the other users of the website?

Are there websites you visit where one could post something, but you don't? Why not?

What is it that makes you go back and use [website] again?

Do you use a website which is particularly aimed at women or particularly aimed at men?

Do you use a website which is only for people of a restricted age group?

3.2. Interview guidelines for the main research phase

- **INTRODUCTION**

My first question would be to ask you to introduce yourself.

Could you say a bit about who you are and where we are right now?

Many people use communication technology differently, depending on whether they live alone, share accommodation, live with a partner, relatives or friends. Could you say something about your living situation, do you live on your own or do you share your place with somebody else?

How long have you lived there?

Where did you live before?

Why did you decide to move?

Do you know people who live in the neighbourhood here?

Are you good friends with them?

Do you have relatives or friends who live close?

What do you like about this place?

Do you spend a lot of time in the area? Do you travel often?

Prompt: shopping, activities, spare time, see friends, see family members?

- **COMPUTER USE**

Now we come to the questions on computer use. Do you use computers right now?

What do you use computers for?

If no: Have you used computers before?

If no: go to question on ICTs

If stopped but used before: ask about past use

If using computers now: Where do you usually use computers?

Do you have your own computer?

If yes, what type of computer is it (laptop, desktop, windows, mac)?

Do you have internet access at home? What type of access (broadband, wifi, dial-up) is it?

Do you share a computer with somebody else?

Do you have separate accounts on the computer?

If yes: Is it easy to share the computer with somebody else?

Does one of you have priority of use?

When and why does one person have priority over use?

Do you ever have disagreements around computer access or computer use?

If no computer in the home: Where do you use the computer?

Do you use it together with somebody else?

When do you use the computer?

Do you normally do any other activities while you are using the computer? What things do you do?

Prompt: Do you multitask?

Is it difficult to find the time to use the computer?

Can you remember why you decided to have the computer where you have it now?

If it was in a different space, would you use it more often?

What do you use the computer for?

Do you use the same computer for work related things or bills and also for leisure? Do you have any separation between work and leisure activities on the computer? Or do you flick between them?

If interviewee lives with another person: Do you use the computer and the internet for different things?

Does this happen at different times of the day?

Do you sometimes use the computer with other people?

Do you think that there are inappropriate ways of using computers?

Prompt: time, activities, children

Could you explain to me how you first started to use computers?

Did you have any kind of formal training?

Did anyone help you to learn how to use a computer?

If computer user for longer time: When did you first start to use the internet?

Can you remember what got you interested?

Have the things that you use the computer for changed over time?

If stopped using computers: why did you stop?

- **INTERNET USE**

I would like to go back to the sheet that you filled in for me now. Could you maybe talk me through the different things that you do, and explain what you are using the internet for?

Do you think that any of the things you do online have to do with you being a woman/man?

Do you identify with a person who writes online, enjoy reading or having a conversation with women online?

If living with person of opposite gender: Would you say that your internet use is different to [person interviewee lives with]'s use, and if yes, would you think that that has to do with you being a man/woman and him/her being a woman/man?

If using web 2.0 site: could you tell me how you came to use this website?

Do you write/post comments?

If not why why not?

Do you have favourite internet sites? Which sites are these?

How often do you use these sites?

If no web 2.0 mentioned: Do you shop online? Do you do genealogy online? Do you use facebook?

Do you have an account on a website to log into? What kind of website is that? (shopping, photo uploading, etc.)

Since you have created your account on the website, has anything changed in the way you use this website?

Prompt: For example do you use it more, do you like it less, do you do different things on the website than you used to in the beginning?

On some websites you can add comments, upload pictures or videos. Do you use any site where that is possible?

Prompt: e.g. online newspaper, amazon

If yes: How would you describe your relationship to the other users of the website?

From which computer do you usually access the internet?

If not interviewing in home but has home access:

Could you tell me where the computer is situated in your house? Which room? Where is it placed (desk/table/sofa e.g.) what is next to it?

When you are using the internet, are there usually other people around?

Do you use the internet together with someone else? Are there particular situations when that might happen?

How long do you usually stay on the internet?

Prompt: How long is your computer usually connected to the internet?

If computer in the home or at work: What is your homepage?

Prompt: e.g.Google

Did you choose the home page?

Do you normally start with using this page?

Do you know about and save favourites?

What kinds of sites are in your favourites?

Do you sometimes show/send other people links, photos or videos online? What kinds of links/photos/videos would that be?

Do you use specialist websites? Including those specifically aimed at women or at men?

Do you use a website which is aimed at older people?

Could you tell me how you came to use this website?

Do you ever chat to other people about what you do on the internet?

What sort of topics do you talk about then?

Do you know any people who don't use the internet?

Does anyone else you know (in your family or among your friends) use the internet?

Do you think that people of different ages use the internet differently?

If yes, can you say more?

Some people have suggested that women and men use the internet differently, Do you agree with this?

If yes, can you say more?

What do you like most about using the internet?

Is there anything that you find difficult about using the internet?

Would your everyday life be different if you didn't use the internet?

Prompt: things that interviewee is doing online, e.g. communicate, shopping, etc.

Do you sometimes ask somebody to do something for you online?

From your own experience, would you say that computers enhance relationships with others?

For what sorts of relationships is the internet useful?

Prompt: e.g. family life, staying in contact with relatives, friendship

- **OTHER COMMUNICATION TECHNOLOGIES**

What other technologies do you use?

Do you use a landline phone?

Do you use a mobile phone?

Do you listen to the radio?

Do you watch TV?

Do you watch videos or DVDs?

Do you listen to tapes?

Do you own any information or communication technologies which you don't use? Why is that?

Do you sometimes help other people to use any of the technologies that we have talked about, including the internet?

- **TECHNOLOGY IN GENERAL**

What would you say are the most important technologies for your life?

Prompt: Mobile phone, computer, TV, etc.

Is there any technology which has become more important recently?

Do you think people your age use communication technologies in a particular way?

Do you think that there is a difference between how men and how women use technology?

Are there technologies that you would like to use in the future, but you haven't used them yet?

Do you have a favourite technology?

Are there any technologies that you particularly dislike?

Do you think that everyday life is improved by all these ‘new’ technologies?

That was my last question – is there anything else that you would like to add?

Appendix 4: Personal details form

Computers in Everyday Life

Personal Details Form
for research participants

In order to help me better understand research participants' different backgrounds and present circumstances I would be grateful if you could answer the following questions. Your details will remain confidential and anonymous.

UNIVERSITY OF TEESSIDE

The University of Teesside is sponsoring this project for the purposes of research governance

Gender (please tick or mark)	**In which year were you born?**
□ Male □ Female	
Household situation (please tick or mark)	**Marital Status (please tick or mark)**
□ living alone □ living with others	□ Single (never married) □ Married (first marriage) □ Remarried □ Separated □ Divorced □ Widowed
If you are living in a household with others, could you please describe your relation to the other person(s) living in your household? (e.g. my husband, sister, etc.)	
	Do you have children? If yes, how many children do you have? How old are your children?
	Do you have grandchildren? If yes, how many grandchildren do you have? How old are your grandchildren?

Your Education and Occupation / Retirement

Which of these qualifications do you have?

- □ 1-4 O Levels/CSEs/GCSEs (any grade)
- □ 5+ O Levels/CSEs/GCSEs (A-C grade)
- □ 1+ A level / AS levels
- □ 2+ A level/AS levels
- □ First degree (BA, BSc)
- □ Higher Degree (MA, PhD, PGCE)
- □ NVQ Level 1
- □ NVQ Level 2
- □ NVQ Level 3
- □ NVQ Levels 4-5
- □ Other qualifications (e.g. city & guilds, OCR, BTEC)
- □ No qualifications

Do you have any professional qualifications (e.g. medical doctor, dentist, nurse, health visitor, qualified teacher status)?

What is your employment status? (Please tick or mark)	**If applicable: What is (was) the full title of your current or last main job?**
□ Full time employed □ Part time employed □ Unemployed □ Looking for work □ Self-employed / freelance □ Retired □ Student □ Looking after home/family □ Permanently sick/disabled □ Volunteer □ None of the above	_____ _____ _____ _____

If applicable: Occupation/Retirement of Partner	
What is her/his employment status? (Please tick or mark)	**If applicable: What is (was) the full title of her/his current or last main job?**
□ Full time employed □ Part time employed □ Unemployed □ Looking for work □ Self-employed / freelance □ Retired □ Student □ Looking after home/family □ Permanently sick/disabled □ Volunteer □ None of the above	_____ _____ _____ _____

If applicable: Occupation of Parents
What was your mother's and father's occupation?
_____ _____ _____ _____

Appendix 5: Examples of the process of data analysis

This appendix describes the data analysis in more detail. I use the example of the code “computer space” and the analysis of gender as an aspect of the objectification phase to demonstrate the process of interpretation.

In preparation for the analysis, interviews and video recordings were transcribed and anonymised. The transcripts were then included in a NVivo project file. Each transcript was first coded with the aim of making different sections easily accessible. This type of coding is also called “reducing data” (Coffey and Atkinson, 1996). It resulted in codes which identified answers to specific questions in the interviews, and enabled me to quickly access all answers that related to one question in the questionnaire.

The transcripts were then further coded in terms of different answers to questions, highlighting patterns, such as “office at home”. Another type of codes identified emerging themes in the data, which seemed important to also highlight through a code. These were aspects of older people’s internet use that were not covered through the initial codes, such as “separation of PC“. I then grouped all codes under 26 different themes. For example, “computer space” became one of nine codes associated with the similarly named theme “computer space”.

Codes associated with the theme “computer space”:

> Computer in bedroom, computer in library, computer room, computer space, computer use on holiday, office at home, only home internet use, separation of PC, using computer in other places;

These themes helped again to manage the codes. Themes were also linked to each other. For example, gender and age are part of domestication processes, but because of their importance for the research project, separate themes were created for age and for gender. The themes were the result of the preceding review of literature, development of the research questions, and coding the data. This process of deciding on the different themes and the linking of codes to certain themes involved further reflection on the codes and their relation to each other.

List of 26 themes:

> Age, computer competence, computer space, computer time, computers and laptops, context technologies, couples, discourses,

domestication, favourite technology, gender, helping, information sources, knowledge, learning, leisure, main computer uses, main internet uses, motivations, previous technology experiences, relations to technology, relationships, resistance, singles, ways of communicating, web 2.0;

The list of themes and codes and emerging findings were also discussed in meetings with my supervisors. I developed memos for selected codes, making more elaborate notes that linked the data with the research questions. I wrote different types of memos. Some included notes on different questions to be investigated in the data (type 1). Other memos (type 2) included the discussion of particularly interesting examples from the data. These helped me to note my thoughts on different excerpts during the interpretation process. The third type of memos systematically reviewed all examples linked to a code. These memos grouped the interviews which described similar situations. In these memos, all excerpts were summarised, and at the end of the memo, the most important points and further questions noted. Guided by the research questions, the coded data and the memos were then used to write up the analysis.

5.1. From “computer space” to gender as an aspect of the objectification phase

I first included “computer space” in my initial codes since one of the phases of domestication processes, the phase of objectification, is concerned with the spatial integration of the computer in the household. I asked interviewees about the location of the computer in their home. The code “computer space” then identified data on the spatial location of computers in the home in all interviews. Other codes additionally highlighted spatial aspects e.g. “using computer in other places”, and I also created a theme “computer space”, which included all codes related to spatial aspects. I systematically reviewed all data excerpts linked to the code “computer space”, since this seemed to be important after coding the data. I also noted possible topics which were linked to spatial aspects of the computer in a memo. Some of these topics were still important at the end of the process of interpretation (e.g. computer spaces and gender) others were not followed through since the data did not include useful material (e.g. computer graveyards – related to the storage of computers that are not used anymore). I also made notes on different ways in which computers could be gendered once they are in the home (beyond the spatial positioning). These two topics, computer space and gender, then led to the

identification of the excerpt from Cynthia's interview as particularly interesting, since her computer was positioned in an unusual space, in the kitchen. In contrast to Lisa, who also had one of two computers in the kitchen but did not cook herself, Cynthia also used the kitchen for cooking. The placement of the computer in the kitchen was a result of Cynthia's son arguing that "the kitchen is where she is", and therefore a computer placed in the kitchen would ensure that she uses it. The writing up of all data excerpts linked to "computer space" further demonstrated that computers were often used in home offices. Some of the women emphasised that they preferred to have the computer in a separate room not to interfere with other activities. These findings were then written up in the section of the thesis discussing the objectification of the computer.

5.2. Examples of codes and different steps in the data analysis

5.2.1. Example of a coded interview transcript (Iris):

Iris, Smalltown, 19.10.2010

Interview transcript	**Codes**
SK: The first question is, if you could introduce yourself a little bit, say maybe, whether you work or whether you are retired?	**Introduction**
Iris: (..) Well, the name is Iris Brown, I am 65, I was 65 in August. I've been retired for about 4 years from full time employment. My full time job was a legal secretary dealing with (…) and probate. And then I went agency, taking notes, and transcribing tapes for companies, with the help of our team. And then I'd have to, used to reduce it to a manageable report size. So the doctors and the (..) could read it. I did that at home, on the computer, in my own time, which was good. Since I retired I have taken up art, no training but I am thoroughly enjoying doing it. Ahm, only sold two, so we are (laughs) not depending on it for our wages. And I do a lot of genealogy on the computer, but I got to the point where I just, if I have got a cousin I haven't found, so be it, I just don't (…) anymore. Hobbies are gardening, like reading, non-fiction books, I do like information books and history, social history type books and things like that. And that is about it really (laughs).	
SK: Do you live together with your husband?	**Living situation**
Iris: Yes, yes.	
SK: Anybody else living in the same house?	

Iris: No.	
SK: And have you lived here a long time?	
Iris: From the day we got married, which is forty-two years. So we moved in on our wedding day (laughs).	
Sk: Do you know many people around, do you have friends in the area?	**Local contacts**
Iris: Yes, yes, I was born here, actually just a couple of hundred yards off the road and then, my husband is a Londoner. And when he moved here, we couldn't, you know, we would go into the town, and everybody would speak to me, (..) would say "well you know a lot of people". Well, it is the sort of town, if you were born here, everybody knows you. (claps hands) Not so much now because there is a lot of new people.	
SK: Do you spend your free time in the area more, or do you also travel?	**Travel**
Iris: Well, most of the free, area, because my husband is still, he is working. He hasn't retired. He works from home. We have just come back from (other country), because we have got a son and three grandchildren in (other country). We got another one in (different country). Ahm, but, you know, we tend to visit friends, they visit us, that is our entertainment. You know, we don't go clubbing or anything, we just sort of have supper and, with friends.	
SK: Then I come to the computer questions.	
Iris: Right.	
Sk: When you use the computer now, where do you use it?	**Computer space**
Iris: It is round the corner in the dining room. And my husband has got ,you know, his own, his laptop upstairs. So he has got, so he can deal, it is linked to this one.	
SK: When did you, was that the first computer that you owned yourself?	**Computer acquisition decision, beginning to use a computer, computer courses, teaching yourself**
Iris: Well, we got, first got a computer end of 95, beginning of 96. That was purely because when I left the full time employment for the solicitor, when I went agency, they needed someone with computer skills and I hadn't any. So they said they would teach me. Sat me in the back room, it was going to be a one to one, but they were too busy, so they left me with the manual and the computer. I had to figure it out (laughs), so there you go (laughs). So, it is, you know, and	

then we got one of our own, and that is it.

SK: So you did teach yourself?

Iris: Mhm, yes, trial and error, you know, really (laughs).

Sk: Do you sometimes, do you also share the computer, so do you sometimes use it

Sharing computer with family

Iris: No no, I have the main one down here, and as I say my husband ahm, he has his laptops. So that he can sort of look up his prices and enter his invoices on that one. But it is all printed out here, so, you know.

SK: Do you also sometimes do other things while you use the computer?

Multitasking

Iris: No

SK: Do you have times when you go on it, or do you put it on in the morning and

Computer time, making time for computer use

Iris: No, ah, we switch it on as we get up and I switch it off as I go to bed. But we are never online all the time. You know, once I've done what I am doing, I sign off, but the computer is on all day till bedtime. Thus it is used constantly throughout the day, you see.

SK: Do you sometimes, do you find it difficult to have the time to use the computer sometimes?

Iris: No.

SK: When you put it in the dining room, was there, did you have any particular reasons why you wanted it there?

Computer space

Iris: Yes, because he was working down here and I wanted my dining room back (laughs). We had it, originally when I got it, it was in the small, front bedroom, and I had (kitted out) like an office, because I was doing all my genealogy research and I had all my files in there. Then when I got, he was doing the hearings, and it was confidential, and I didn't want somebody walk in and looking up my shoulder to see what was confidential. So that was up there. In the meantime he started doing his business from home. And he was around the corner, and it was just ridiculous. So, when he was out one day, I moved everything, so he (laughs) now has the room upstairs. And I just have a tidy corner. (laughs)

SK: Do you have a separation between more, like, official things, like bills on the computer, and more leisurely things.

Leisure vs. work

Iris: Well, we do, I don't do bills on the computer, well, we don't. Ahm, the only bill, well, he has, is his virgin media bill, which comes through. But apart from that, it is just, I mean for me, it is purely leisure. For him, it is business.	
SK: Can you think of any ways of inappropriately using computers? Like other people have told, were talking about, they know people who use computers too much, or people who send them emails they don't want to get.	**Inappropriate computer use, spam**
Iris: Yes, spam is unbelievable, that irritates me to death. We have spam control set up, but even then, we have the odd one slip through. And I object to, I suppose you could call it spam. But, just forever, once you buy something, they (are) forever sending you emails. I mean amazon are the worst people. However, I do buy from amazon, so, click off, and I, and I figure it out. But you know, once you buy something, they don't leave you alone, that irritates me.	
SK: When you taught yourself how to use the computer, were there any people who would informally support you?	**Teaching yourself, getting help from others**
Iris: Yes, I had some friends. Ahm, Martin who lived over in Othertown at the time. So, we used to phone him up. But when we first got the internet, that was what I needed help with. But actual typing, sort of word documents and stuff that I needed for the job, I just had to figure it out (laughs) really. Which was, I mean I was a typist anyway, and I used a word processor, but not actually a computer. So I was sort of halfway there.	
SK: Internet use (…..) paper sheet and tell me maybe whether you do these things a lot or if you can think of any examples where you've recently done anything.	**Shopping**
Iris: Right, ahm. Well, shopping. I've recently, because you know, I have a couple in my favourites, that I frequent and shop.	
Email constantly, everyday, mostly business ones. But our friends, but the business is, because, we an, we try to answer emails as soon as they come in, and as soon as the order is there, we get it out straight away, so that is constant.	**Email**
Digital photography, I use that quite a bit, because a son in (other country), in (other country) sent us pictures of kids and stuff and (…).	**Photography**
Work from home of course.	**Work and work from home**
Communication with friends is quite, and family communication, I use	**Communication**

that quite a lot, and frequently, and recently. And, people you never met, like you (laughs).	**with friends, communication with family**
Genealogy, I used to do that an awful lot. As I say I've stopped that now. I still got, you know, the relevant bits of websites, if I need to sort of sneak (.) at anything, but, you know, enough is enough.	**Family history**
Ahm, and organising events, I tick, well, I just passed it on, but I used to be the secretary of the (leisure interest) society I was in. So I used to have to get newsletters out, and keep them informed of what was happening. That sort of thing. Okay?	**Organising events**
SK: And on the other side, I think you ticked Facebook?	**Facebook**
Iris: Yeah, I just do that, I don't actually, I read more than I post. I do occasionally post, but I am a little bit weary of Facebook. I mean, I am on it, and, there is this one woman, she is, very into religion, and she is one of these, she is (other nationality), and she has got this, allergy to all sorts of different things. She lives in protected housing, and it can get a bit heavy, so every now and again, I cut her from my newsfeed because I can't be done with it (laughs). But, you know, I can't anyway, that is besides the point, I do read quite a lot and post just occasionally.	
SK: Are you friends with your children as well?	
Iris: Oh yes. yes. Well, not on Facebook you mean? Oh no, no. I mean Thomas, the one in (different country), he has got one for his team and one for his private, but he is not the communicative sort of person really, so no. But, no, we don't. And Fred, (other country), they don't, his wife was, and then she got scared because she was sort of saying that she was going away and then everybody would know so she is off it. I mean, I have friends in (other country), and all of, well, that I write to, via Facebook. Because it helps, if they haven't the time to do an email, we can do a quick message on Facebook. Which is, okay? Good job this is taped, you'd never get this down in writing (laughs).	
SK: Ahm, do you read, you don't read blogs?	
Iris: No.	
SK: So it is only the people that you actually know?	
I211: Yes, that I actually know, I'm interested, I know, that I follow.	
SK: Do you think that women and men use the internet differently?	**Men's and women's internet**

Iris: Yes.	**use**
SK: How?	
Iris: Well I think men play more games or, I mean, my husband doesn't play games, but he does, he likes gambling, not, for cash, but just, you know. for points. I think it is pathetic. But you know, there you go (laughs) and he looks up things, do it yourself, like B and Q website, that sort of stuff, whereas I tend not to. I mean, I buy different things online than he would. Ahm, you know, and I, I have friends that I keep in touch with, and he doesn't. He is more boringly focused (laughs) whereas I am a bit wider interested. You see what I mean (laughs).	
SK: Okay, do you have a favourite website?	**Favourite website**
Iris: No, not a particular favourite, not a particular favourite. I have a variety of websites, and I like them all equally, really. I have shopping ones, art ones, you know. Research ones, book ones, but they are varied, but nothing in particular.	
SK: Ahm, apart from Facebook, ahm, and Amazon probably, do you have any accounts on websites?	**Online accounts**
Iris: Ahm, well, I buy things, yes, I suppose, Croquers, it is a gardening website, and you can buy plants, and they deliver it. What else, there was another one, an art one., pencils for artists, that is sort of in my faves, so that I can get pencils and bits and bobs. Yeah.	
SK: Ahm, do you also use computers in other places like the library, or friend's houses?	**Using computers in other places**
Iris: No. Ah, friends' house I might do, and son's house I did. We sort of kept check up and posted while we were away. So, yeah.	
SK: When you are usually using the internet, are there other people around?	**Computer use with others**
Iris: No, just me (laughs) or if he comes down.	
Sk: When you open the browser on your computer to use the internet, what is the first website, the website, your homepage that comes up?	**Homepage**
Iris: Well, I mean, it is the AOL homepage, and then there is a drop down box any faves that I want to go to, any one.	
SK: Do you sometimes send other people pictures?	**Sending photographs**

Iris: Yes, yes, quite often.	
SK: Do you send people links to websites that you find useful?	**Sending links**
Iris: Yes, often.	
SK: Do you use any website that is particularly for women?	**Website for women**
I211: Not really, no, Marks and Spencer's, Marks and Spencer's women's page. I suppose yes, yeah. Did have John Lewis, but did get a bit (..) with them so then they got crossed off. (laughs)	
SK: Do you use any website that is particularly for older people?	**Resistance to ageing, website for older people**
Iris: No, no. I refuse to admit I am old (laughs)	
SK: Ahm, with, like among your friends, are you someone who uses the computer more, or are you someone who uses it as much as everybody else, or	**Friends internet use**
Iris: Ahm, more. More, well, marginally more, we have some friends in the area, he used it quite a bit, he is in (club) and he uses that sort of stuff. But I would say more, really. Most people do it, you know, just for the odd leisure thing. Whereas we do it all day for business and leisure.	
SK: And when you talk with other people about the internet, with friends, do you, ahm, are there any things that you regularly talk about, "the internet", or do you more, talk about all sorts of things, and then occasionally, that will lead to the internet.	**Talking about the internet**
Iris: Other things, you know, and, you know, the most thing is we got we got people in for supper, we got some pictures of the kids, I'll say "oh I'll put it on a slideshow, while we are eating". And they come up, but they are main, that is about it, really. We have a life, basically (laughs).	
SK: Is there anything that you particularly like about using the internet?	**Preferred aspect of the internet**
Iris: It keeps me in touch with family, you know, the distance, because, you know, we have got like the Skype, and the camera. So, I know it is a bit of a rare opportunity to catch them when we are up and they are up. But that is good. Ahm, and just keep in touch with the world, and you know, there is things that I often think, I wonder about, and you can actually find out about anything on the internet, so I use it quite a lot just to sort of, if I haven't got the reference book,	

I'll look it up and find out, you know.	
Sk: Do you sometimes ask someone to do something for you online?	**Getting help from others**
Iris: For me online? Ahm, just my husband, if, yeah, occasionally, if there is something to send, or some fiddely thing,to, that kind, that hasn't got into it (laughs).	
SK: Other communication, the last section is on other information and communication technologies that you use. Do you use a landline phone?	**Landline phone**
Iris: yes, yeah.	
SK: A mobile phone?	**Mobile phone use, mobile phone for emergency**
Iris: Not, we got it for emergency reasons, but very rarely use it.	
SK: Do you listen to the radio?	**Radio**
Iris: No	
SK: TV?	**TV**
Iris: yes.	
SK: And do you watch videos?	**Video**
Iris: No	
Sk: Do you listen to tapes?	**Tapes, CDs, DVDs**
Iris: No, not tapes, no, CDs, DVDs.	
SK: Do you have any new sort of technology like that, that you own, but you never use it?	**Old technology**
Iris: No, not really. Well, I've got a portable CD player but I very rarely use it, you know, use the one that is here. No, nothing, no.	
SK: Would you say that there is a technology that is the most important technology for your life?	**Most important technology**
Iris: What technology is? I would say the internet, really, related to the business, mhm.	
SK: Do you think that older and younger people use technology different?	**Older versus younger people's technology use**

Iris: Yes.

SK: How?

Iris: How, I think, it sounds a bit odd, but I think young people are more daring with it. I tend to be, you know, speaking personally, I tend to be more cautious. Before I order things, I'll check it out. And then I save it for later and think about it before I do it. Whereas say (son) in (other country) say "just do it mother". And he, you know, and I think they look at different, he sort of sort of has films, and he downloads films for the kids and, you know, whereas I never do. I just think, they are, yes, they are more into sort of instant entertainment, whereas I am not, old people aren't.

Sk: And then women and men again, would you say, using technology, is that something that

Women's and men's general technology use

Iris: I think so. Yeah, I think men can be more technical, women are perhaps a bit more laid-back about things, whereas men are a bit more intense perhaps.

SK: Do you think that the internet improves everyday life?

Everyday life different through internet access

Iris: Difficult question. I mean we all survived quite nicely without it. However, the advantage of being able to communicate over the world, and find out such a lot, that is an advantage. But, I think it has got its downside, and I think that has made it quite evil at some times. I mean I am sure things existed years ago, but it wasn't as common.

SK: That was my last question, is there anything else you would like to add?

Iris: I don't think so, no.

5.2.2. Excerpt from the NVivo list associated with the code "computer space":

<Internals\\Boris> - § 2 references coded [3.26% Coverage]

Reference 1 - 1.54% Coverage

SK: And, do you have a computer at home?

Boris: I just got a laptop now. I used to have a computer, but it takes up too very much space and I don't have a, I don't have a very good understanding of it, and I don't have a good understanding of lots and lots of things that it could do, that I don't do. So the laptop is perfectly adequate for what I need, more than, more than adequate.

Reference 2 - 1.72% Coverage

SK: And do you have the computer in a separate room, or do you have it in the living room, or the bedroom?

Boris: We have a small bedroom, which is only used on occasions when we have three people staying. But normally that just gets used for the computer, for the laptop I should say.

SK: And did you always, when you first got a computer, was it always in a separate room?

Boris: It has always been in that room, as it happens.

<Internals\\Cynthia> - § 2 references coded [5.51% Coverage]

Reference 1 - 2.86% Coverage

SK: So then, I come to the questions on computers and computer use. Where do you usually use the computer?

Cynthia: In the kitchen. And there is a story attached to that. When we bought a computer, which is, 7 years ago. I wanted to it in the dining area, I didn't want it in the bedroom upstairs, in a little cupboard. I wanted it in the dining room. Albert, who was putting it in said "no, no, you don't have it there. You won't use it. It is not where you are. I said "we will we just go". He said it goes in the kitchen. I said I don't want it in the kitchen, the condensation and the cooking. He said the only way you'll use it, is where you are. So I thought, let him put it in the kitchen, we'll move it.

Cynthia's husband: laughs

Cynthia: Then (..) it wasn't quite as easy as that. So, anyway, he put it in the kitchen. (laughs) (...) he knows what he is talking about. But, really, I've got friends who've got it in the bedroom, they've it in the (.) ward somewhere, and they have to go and look at it. They have to all the time be thinking "I can't be bothered to go and look" they never read email. Mine, I know every time an email comes in. I am on the ball. And I used to not quite realise that. I said I didn't want it to take over my life, and it hasn't taken over my life. But it is part of my life. It is, I mean

Cynthia's husband: But the great thing about it being there is, it is convenient. You can turn it on like that, and you decide to just, if it was elsewhere, it would be an effort, to go, to go up and sit at the computer. Now you needn't sit, you just look at it.

Cynthia: You just look at it.

Reference 2 - 2.65% Coverage

SK: So when you use the computer in the kitchen, is it more one of you using the computer, or do you use it together a lot?

Cynthia: sometimes together, sometimes there is four or five of us in there.

Cynthia's husband: Occasionally, occasionally we work together, if I have a problem.

Cynthia: Yeah, yeah.

Cynthia's husband: Or, as always happens, whenever we have friends here,

Cynthia: We all end up in the kitchen. (laughs)

Cynthia's husband: Everybody is clustered around the computer. (laughs)

Cynthia: When somebody says something about and oh, why don't we have a look? And I go at something and say "come and see" and everybody gathers around (laughs) we pull all the chairs in and we sit there. (laughs) We say, that is when we think, where we should have it somewhere else. Not in the kitchen. But that is the only time. That is why I sometimes think a laptop would be useful. We haven't got a laptop. And I really don't think we could justify to buy one. Because if we are in the sitting room it would be nice through there, then yes, a laptop would be useful. But if, you know, I can come, I come through and make a coffee, so I check the emails then, do whatever I want to do. But a laptop, if they were cheaper, if I had a cheap laptop, I think I would have a laptop, I think a laptop would be useful. Yeah. You could sit here, you could sit at the sofa and you know, look just at the pictures or look up some facts or something. Whereas we have to go in the kitchen now. Plenty of room in there.

5.2.3. Example of a memo (type 1): Computer space

computer space
- where are computers, what is next to them
- how are computers placed in different areas which have different uses or connotations
- computer graveyards
- computer spaces and gender

5.2.4. Example of a memo (type 1): gender technology mutual shaping relations

Feminist technology studies

several points which can be taken up from previous research/this theoretical approach
* gendered access
* technology as gendered: perception/framing; technology as "filler" for

gendered identities.
* gendered use of computers, the internet, and web 2.0 (as in women do this, men do that, e.g. activities)
* implementation in a gendered context, e.g. gender+age-relations: gendered space; this is linked to the previous point, but it is separate, as this means that not just different things are "done", but that the context in which the technology can be potentially integrated is itself shaped e.g. in terms of space by gender, creating different zones within a household which have different gender connotations.

5.2.5. Example of a memo (type 2): Computer spaces and gender

computer spaces and gender
there might be differently gendered areas in a house where a couple lives, with e.g. "shed for the man", "kitchen for the woman", one explicitly DIY/technical/male the other possibly DIY/technical/female, but maybe not at all described as DIY and technical, and only female

Example 01:
Description of the situation:
computer in the kitchen; woman did not want it in the kitchen. grown up son put it there. she thought she would put it in the dining room when he had left. was difficult to do. kept it in the kitchen. uses email a lot. says she uses the computer more than other people who have it in the dining room.

she didn't want it in the kitchen for safety reasons, and she seems quite happy now with using it there.

It seems to be successful in terms of making her use the computer. and she also seems to enjoy it a lot: see favourite technology "I would rather live without a washing machine than without a computer"
But it also makes her use the kitchen even more.
The downside is as well that she has to go to the kitchen to look things up. that is, if it was cheaper she might actually want a laptop. But she says "I am getting tea from the kitchen all the time anyway".

It would be possible to say that this is an example where the "new technology" does not have an impact on changing the gender relations in terms of space. She is kind of through the computer even more in a traditionally female space, the kitchen.

On the other hand she is quite keen on using the computer. When talking about her husband's computer use, she says that he is "able to use" the internet, although he says he can't do many things. At this point they almost start to argue. She says "you could do it, you would just have to ask me, and I would show you how to" while he keeps maintaining that it is difficult for him to do many things on the computer.

She also talked before about the usefulness of the internet. He can access any information and e.g. repair phones although he doesn't know anything about phones before he looks up information online.

Maybe, by putting the computer in the kitchen, the son makes the mother although still in traditional female space, more competent than she would like to be in comparison to her husband. she would still like her husband to be more able than her (the son is probably another important part in this family constellation of masculinity and technology, as he is sort of the top of internet technology/ and working in the IT industry; so the son is a masculine

ideal of technology and masculinity). The husband would have the ability, as she stresses, to use the technology.

She definitely enjoys her own competence, but in reality probably in terms of masculinity deplores the husband's lack of familiarity with the computer.

Another thing to look at here would be her actual use, what she uses it for: e.g. neighbourhood watch. and her ideas on whether men and women use the internet differently (women communicating).

Another thing that is important in terms of female space, is that in this household, the husband spends a lot of time in the shed, working on his model trains. so he has a definitely separate, male space. He showed me his model train after the interview, saying "this is what we are", and she did only go with us to the shed, but then walked back, and I only saw her again when we were back in the house. They both had a bit of a tendency to say "we do this" when actually, maybe only one of them was doing something or not doing something (e.g. he thinks that they are not playing games, while she is constantly playing games).

Looking back at it, it might be that in this household with very strong spatial regions for her and him, the computer in her space ends up leading to her being more competent.
This could also be more linked to gender identity.

5.2.6. Example of a memo (type 3): Computers in the home

Computers in the home
1.) where are computers used in the home? and where are they placed in case there is a difference between the place of use and the place of storage.

Example 01: Martin, Peter, Fred, Norman, Ed, Louise, Claire, Anne, Nora, Kevin, Daniel *the bedroom converted to a study*
Martin who lives together with his wife has a desktop computer in a separate room on the first floor of their house. Martin's wife says that "he has a little computer room upstairs", whereas he says that it is "our box room". This interview also included a video recording session, which also showed the "box room" also to be a storage space for presents from Martin's daughter.
Peter also uses the computer in a room upstairs. He has more than one desktop in the room, but also a laptop which he uses downstairs. When using computers upstairs he has to leave the door open so other members of the household (his wife, daughters) can see what is on the screen.
Fred has a laptop that is in a room upstairs that is "jumbles". He decided to have a laptop so he can also move it around. Occasionally he brings the laptop downstairs, but to use the printer he has to go upstairs.
Norman lives together with his wife. They have a desktop computer in a room next to their living room. This room is also used for storing books. Norman says that a laptop was not necessary, as he does like to sit in front of a desk when he is doing work like activities. He also thought that using a computer in an armchair would disturb others (mainly potentially his wife) when they want to watch TV or listen to the radio.
Louise lives alone. Her computer is in a room upstairs that used to be a bedroom and is now an office.
Claire lives alone, she uses her computer in a separate room upstairs.
Anne lives with her husband. She uses the computer in a separate room.
Nora is widowed. She lives alone and uses her computer in a separate room. She always had the computer in a separate room, also when she lived with her husband.
Kevin lives with his wife (Susan). He uses the computer in a separate room,

except when his wife wants to use it. Then he uses a laptop in the living room.
Daniel lives with his wife (Dorothy) and adult son. He uses a computer in his younger son's bedroom since the son moved to university.

Example 02: Boris, Ed *guest room/computer room*
Boris, who lives in a house with his wife, has the computer in a separate room on the second floor. The room is used as a bedroom when more than three people are staying with Boris and his wife, otherwise it is the computer room. The computer is a laptop, as Boris said that he would not need a desktop computer because he does not have sufficient understanding of the computer and more complex things he thought would be possible to do with the desktop computer (?), and the laptop was advantageous because it takes up less space.
Ed lives with his wife who works outside the house. He is retired. They have a desktop computer in an upstairs office which also has a bed in it. Ed fits his computer use (in the morning) around his wife's work, so "she is not alone downstairs" when she comes back.

Example 03: Paul, Sven, Claire, Amanda, Jack, Louise, Nora *living alone*
Paul who lives alone, converted "the third bedroom" into a study, which is a storage space for his books as well as a room for computer use. Paul, when he first had computers in the 1990s, used to have them on a big table, but not in the third bedroom. Because of the way he was using the computer (e.g. website moderation, genealogy, etc.) he then changed to having it in the study. Before that, he would have had his first computer at home in the 1980s. This one was in the lounge as "there was nowhere else to put it". Paul's computer seems to have gotten more and more space over time.
Sven lives alone. He has the computer in a separate room "away from everything else".
Claire also lives alone; she uses her desktop computer in a separate room upstairs.
Amanda also lives alone. She has her computer in an upstairs room with books and a coffee table. Her children wanted to buy her a laptop, but she doesn't want a laptop as she does not want to carry the computer around. "Everybody else" has a laptop, which makes her think that she needs it even less, as she could borrow theirs.
Jack, who lives alone with his partner living in another part of the country, uses his laptop in a study.
Louise lives alone, she uses her computer in her upstairs office room.
Nora lives alone, she uses her computer in a separate room upstairs.

Example 04: Iris *the tidy dining room work space*
Iris uses the computer in the dining room in a corner. Her husband has a separate room where he uses his laptop for business from home upstairs. Previously, Iris had this upstairs room where she would work from home. Doing confidential work as a secretary, she needed the room to be separate. Her husband, at some point during that phase, started to run a business from home, which he did from the dining room. Iris however "wanted her dining room back", so while he was out one day, she moved all his things into the room upstairs, and hers downstairs. As it is her computer which is downstairs now, the dining room is tidy. This has to be seen in terms of gendered spaces - e.g. "her dining room" should be tidy, and she gave up a separate work space (now she is also retired) and traded this for "her dining room". The dining room as a female reception/food/living space is a more typically female gendered space, and in the sample several men have a separate office room for computers.

Example 05: Barbara, Kevin, Daniel, Lisa *using several computers*
Barbara, who lives alone, has a laptop in the lounge on a little table. She also has a desktop computer in a spare bedroom, which she uses for

playing games at night. She uses the laptop for everything else. She does not take the it into her bed, as she might want to use the internet on it, which then would mean that she could not switch the internet off downstairs before going to bed to save electricity.
Kevin uses a desktop computer in a separate study, and a laptop in the lounge when his wife wants to use the computer.
Daniel uses a computer in a bedroom he uses as a study since his son left for university. (He thinks that his son should pay him rent when he comes back.) In that room he has a computer with outlook express, which is linked to his mobile phone. He uses the mobile phone extensively because of his memory problems. He also recently bought a netbook (as he cannot use the internet on his mobile with the screen being too small), often one next to the other. His wife has a laptop, and there are two other computers, as well as several old ones in the house he keeps because they are good for specific things, e.g. scanning. He says that he shares the main computer with his son, and his wife uses her laptop independently of them sharing the main computer.
Lisa lives with her husband. They have a desktop computer in the kitchen and a laptop. She uses both but prefers the desktop because of the keyboard. Before she moved in with her husband, she used to have a separate room for the computer.

Example 06: Therese, Tamara *the woman's workroom*
Therese has a workroom where she does jewellery upstairs in the house she shares with her husband. She also has a desktop computer and a laptop in that room. She first had the computer in there when it was still a spare bedroom, now it is converted to a workroom. Having the computer in the workroom enables her to "go there and work on it".
Tamara also is the main female user of the computer, living with her husband, and using the computer in a separate room.

Example 07: Monica, Susan, Tamara, Nora *rooms free from computers*
Monica shares a computer with her husband which is in "the study". They have just bought a new computer, and decided to have a desktop. Her husband did not want a laptop, and she did not want a laptop either. I216 says that she wouldn't want it in the sitting room, an eating room, or the dining room, or the bedroom, "pinging in the corner" and reminding her of emails. she also says that she has a "stand-off attitude" towards it, which makes her want to have the computer in a separate room.
Like Iris wants the dining room tidy, Monica wants it to be free from computers.
Susan, who lives with her husband (Kevin), also shares a computer with him in a separate room. She also says that she wouldn't like it "in the living room or anything like that". Her husband, Kevin, says that he uses the computer in the study, but whenever his wife wants to use the computer he uses his laptop in the lounge.
Tamara lives with her husband. She is the only computer user, using it in a small bedroom. She says that it is convenient because they have the space as the children have moved out. She would not want it in the main bedroom. But in the extra bedroom you can "shut yourself away", "I hate the thought of these things in the bedroom".
Nora lives alone. She has the computer in a separate room to separate it from other activities. She doesn't like her brother using the computer in her living room.

Example 08: Harriet *two computers*
Harriet lives with her husband. They had a computer for the last 27 years at home. Until a few weeks before the interview they only had one computer. this one broke down, and Harriet's husband bought a new computer. She then told him that she wanted her own as she didn't want to ask for his permission to use the computer, he uses it a lot. They both got laptops, but

he has the spare bedroom to work on his hobbies (still getting paid to do work-like things he enjoys), and she uses the dining room table. the dining room table is then also filled with other technology she needs for her hobbies (sewing machine, painting).

Example 9: Dorothy, Steven *bedroom use*
Dorothy uses her laptop in the bedroom. she also stays regularly at a friend's house, where she can also use her computer as it is connected to the wlan there. Dorothy lives with her husband (Daniel) and her adult son, who both use their computers in different rooms. Her husband uses the computer downstairs, and her son in his bedroom.
In Dorothy's husband's account it is somewhat different, as he had taken back his youngest son's bedroom when the son left to go to uni. In this bedroom, there is a "main computer" used by his adult son, and him. And he would then additionally use a laptop. The main difference is that while Dorothy describes them as using computers all in different rooms, Dorothy's husband seems to be also using the computer together with one of his sons.
Steven lives with his wife and their younger daughter. They all use one computer which is in the bedroom of the parents. He says that when his daughter is in the bedroom with one of her friends it becomes "twisted". He thinks that he would use the computer more if it was in a separate room.
Steven lives with his wife and his younger daughter. They have one computer in the parents' bedroom.

Example 10: Mary *many computers, one internet connection*
Mary lives with her husband and her two sons who are both young adults. They have a study with a "main computer", which Mary uses when she wants to use the internet. Her sons use this computer as well and "fight for space". Mary and one of the sons also have laptops. Mary's husband also has a separate computer in a different room which he uses for his hobby, writing music. But they are waiting for Mary's husband to set up the router, so he would then not use the main computer anymore, and she and her sons would be the only users of the main computer in the study. Mary does not use computers in other places like the library or a friend's house, but she used to carry a usb stick when she was still doing work, moving data between the main computer with the printer, her laptop, and the computer at work. She uses the laptop mainly for writing in MS Word. Mary wouldn't want to have the main computer in the dining room as it gets too crowded in it. (This is also related to the number of people living in the household, as for example Harriet can use the dining room table for her laptop and other hobbies, living only with her husband)

Example 11: John *bathroom-computer room*
John lives together with his wife. She works out of the house in an office, he spends more time in the house, but also does several smaller jobs. They converted a part of their bathroom to a separate room with a computer. You have to walk past the computer to access the bathroom. The computer room does not have a window. Before they moved into the house, they had the computer in the cupboard under the stairs, and kept their files in the bedroom and the bathroom in the old house. John now finds it hard to imagine how they managed to keep all their things stored with the arrangements in the old house. (Now, the mess around the computer is a source of arguments between him and his wife)

Example 12: Lars *multiple computers per person*
Lars lives with his wife. He is self-employed and student at the moment, she works as a writer from home. There is one computer "mainly for entertainment" in the living room which he uses during the day. They have a third bedroom converted into an office with a computer and printers. This computer is used for their business (selling a product online). They also have a loft where his wife writes. Additionally to the computer she works on

there is also a spare laptop, one that was used to develop their product but is not used anymore, as well as "a couple of others". They also both have a netbook and a laptop.

Example 13: Charles *work only computer*
Charles uses his computer in his work office which is in his home. He bought his first computer 30 years ago. At the time he would use it in "one of the rooms we were using as a family". When he became a priest he had to have a separate room as an office in his house. He does not use his computer separately from work.

Example 14: Lisa, Cynthia *computer in the kitchen*
Lisa lives with her husband. They recently married. Lisa and her husband have a laptop (originally owned by the husband) and a desktop computer in the kitchen. Lisa uses both computers but prefers the desktop because of the keyboard. She doesn't cook, her husband uses the desktop computer to look up recipes.
Cynthia lives together with her husband. They have a computer in the kitchen. Although initially she didn't want the computer in the kitchen because of condensation, her son put it there. She first wanted to move it but that seemed complicated and they still have it in the kitchen.

Overall, there are many converted bedrooms which are studies now. Often men who are the main users of the computer are the main users of the study.
But there are also examples of women who are main users and use it in extra rooms.
Where both use computers equally, sometimes the men get the office (if they still get paid for example), one of the women "claimed back" another part of the house (dining room).
In general, women often say that there are several areas where they wouldn't want the computer, sometimes saying that this is due to them being distanced to computers, although they use them.
Singles obviously do not have the same gendered space dynamics in the house in relation to computers. Another question is whether people have one or two computers, and whether they are designated for different activities, or used depending on access to other computers.

Age is relevant in the process of creating space for different members of the household to use computers. Sometimes continuing work activities also shape these habits.